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—THE— American Practitioner and News

A Monthly Journal of Medicine and Surgery.

F. W. SAMUEL, A. M., M. D. SAMUEL BROWN HAYS, M. D.,
—Editors—

Vol. XLIII.

LOUISVILLE, KY., JANUARY, 1909.

No. 1.

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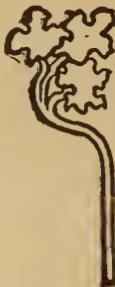
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LOUISVILLE, KY., JULY, 1909.

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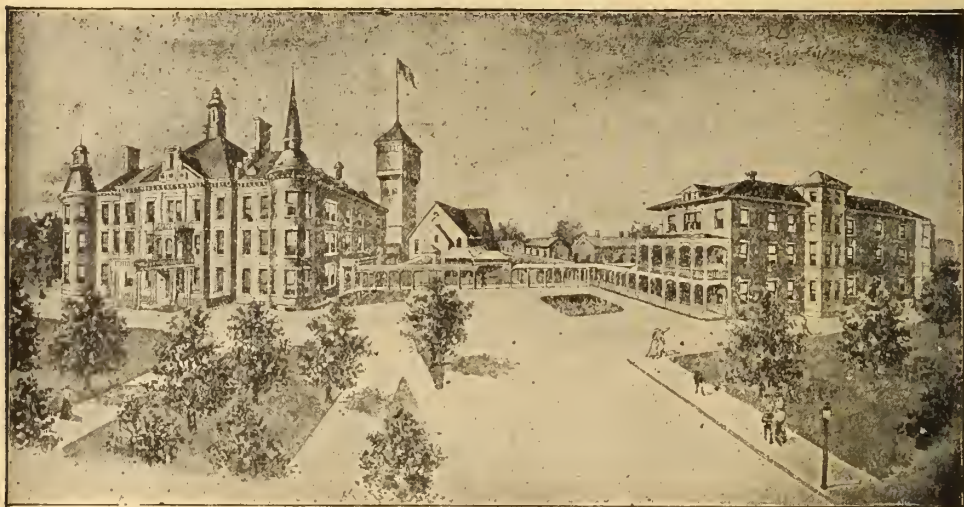
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LOUISVILLE, KY., SEPT., 1909.

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ITS ETHICAL CHARACTER.

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A Monthly Journal of Medicine and Surgery.

Vol. XLIII

LOUISVILLE, KY., DEC., 1909.

No. 12

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VOLUME XLIII.

JANUARY, 1909.

NUMBER 1.

Original Communications.

SOME EXPERIMENTS WITH THE "COPPERHEAD."

BY ELLIS SAUNDERS ALLEN, M. D.,

LOUISVILLE, KY.

THE popular mind and imagination has been occupied since time immorial with poisonous snakes.

The frequent and almost mysterious deaths after snake-bite have surrounded the whole class with a halo of fear and superstitious reverence.

In my early boyhood days on a cotton plantation in Alabama, fear of snakes rapidly developed into interest as I learned that all snakes were not poisonous, and I frequently found entertainment in chasing the negroes with snakes, and acquired the title of that devilish Allen boy, what's always got snakes in his pockets. This summer an acquaintance, while attempting to demonstrate his fearlessness of a rattlesnake, was bitten on the hand and died in four hours. This occurrence caused me to resume my interest in snakes.

As the copperhead moccasin belongs to the same subclass of pitted vipers as the rattlesnake, I seized the opportunity to do some work with a moccasin that was presented me this summer. I selected the rat as a victim on account of the number of experiments I intended conducting and the ease with which I thought I could procure them.

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I placed an advertisement in the daily paper offering ten cents apiece for live, full grown rats, and waited almost a week before receiving any response, and then all the rats in Louisville were caged and headed for my office. I had rats everywhere; something like a thousand were offered, and I received numerous letters offering to furnish me with a hundred a week at a little reduction in price.

The snake was confined in a large wire cage, and I placed the rat in the cage by means of long forceps grasping the rat back of the neck. The snake would strike almost as soon as the rat was in the cage, but was unable to reach the rat at a distance greater than eight or ten inches. Time and again, while holding the rat at a distance of a little more than a foot, the snake would fall short in its strike. I made this test to disprove the prevailing idea that a snake could jump so many feet and strike its victim. I also demonstrated that it was not necessary for the snake to coil before striking.

Different objects placed in the cage such as gloves, test-tubes and the like, the snake would take no notice of, even after it had been annoyed by being punched at, but just as soon as a rat was inside of the cage the snake would either strike in the position it was already in or crawl nearer the rat and then strike. At no time did the snake hang on after biting, but would bite and let go immediately.

Live mice constituted the diet of the snake for which it always had an appetite. The snake would not strike the mouse when first placed in the cage, but it once became all attention, closely watching every movement of the mouse, and after the mouse had encircled the cage several times the snake would strike, then quietly wait until the mouse ceased to show signs of life, and before making an attempt to swallow the snake would apparently gape, opening its mouth as wide as possible—about ninety degrees—then would crawl up to the mouse, swallowing it with ease, always head first.

There has been some difference of opinion as to whether the poisonous snakes injected venom into their prey. Au-

topics on the mice and histological sections proved conclusively that the moccasin poisons it prey.

As to the rats bitten, the first rat died in twelve minutes; the second bitten five minutes after the first, died in one hour; the third bitten ten minutes later died in four hours; the fourth died in twenty-four hours, and the fifth lived three days. The rat that lived three days had a decided hematuria.

I then waited twenty-four hours before placing another rat in the cage, and the rat bitten died in ten hours. I waited four days and the rat bitten lived two hours. I then allowed five days to elapse and milked the glands of the snake by means of a spoon in the snake's mouth, grasping the snake back of the neck with a padded forcep. I was able to get about four drops of yellowish secretion. This I diluted one to five with sterilized water and divided into two equal portions. I had previously given several rats hypodermics of whisky and had ascertained that two drams were fatal to a full-grown rat in about one hour, respiration seeming to be paralyzed.

I selected three rats of about the same size; to rat No. 1, I gave the diluted two minims of venom; rat No. 1 died in twenty hours. To the remaining half of venom I added twenty drops of whisky and injected rat No. 2, and thirty minutes after the injection I gave rat No. 2 an hypodermic of twenty minims of whisky; rat No. 2 died in fifteen hours, but manifested signs of intoxication several hours earlier than did rat No. 1. Both rats were restless, frequently changing their positions in the cage. Rat No. 2 became too weak to crawl two hours earlier than did rat No. 1.

To rat No. 3, the one I used as control, I gave forty minims of whisky, twenty minims at a dose thirty minutes apart. Rat No. 3 became drowsy in about ten minutes after the second injection and slept for one hour, its respiration was slow and shallow. At the end of an hour rat No. 3 was aroused with difficulty and would begin to snooze again in a few minutes after I ceased disturbing it.

and remained more or less sluggish for six hours, after which time it was apparently at itself again.

I next injected two rats with twenty minims of whisky each, and rat No. 1, I placed in the cage and the snake bit it three or four times before I could get it out. This rat died in three hours, while the rat with the injection of whisky as control merely appeared a little drowsy and lazy.

I now wanted to ascertain whether or not the snake had completely exhausted its venom after having bitten one rat four times in succession, for the snake seemed unusually infuriated, so I placed another rat in the cage, the snake at once striking it; this rat at the end of ten hours manifested no signs of intoxication. I thought I would let the rat be the guest of the snake for the night, and placed the rat in the cage, leaving it there. Some disagreement must have arisen through the course of the evening, and evidently they concluded that both could not sleep under the same roof. I will leave it to your imagination the fight that must have taken place.

The next morning when I went to inspect my prisoners Mr. Rat was lord and king, serenely occupying one corner of the cage a picture of content, but with an abdomen enormously distended, and all that I could find of the snake was its striped spinal column. The rat had killed the snake and eaten it all save the skin and spinal column. The spinal column was unbroken; the snake had been dextrously skinned from head to tail; the entire skin of the snake was rolled up at the smallest part of the snake's tail; the poison glands of the snake were included in the rat's repast.

So unusual was this "horrible tragedy of the night" that I had several doctor friends to come in and observe before I disturbed this cannibal encaged. However, the rat died in twenty-four hours after its bloody deed, possibly from remorse, or was it "mock sin?"

I held a post mortem on each rat killed by the snake and found an enormous ecchymosis to exist in each case for an inch or more around the area of bite. The tissues

were very much congested and swollen, and, though a considerable hemorrhage out into the tissues, in no case did I find any tendency to clotting, nor did I find any clots in any of the rats except those that lived longer than twenty-four hours, and in these there were large clots in the heart, pulmonary jugular and larger abdominal vessels.

At autopsy the brain and viscera of each rat showed unusual discoloration as a result of an extravasation of hemagobin and blood into the tissues, ecchymotic areas were numerous over the liver, intestines, brain and lungs. Three of the rats emitted bloody froth from the lungs. These same rats developed hematuria. I made histological sections of the brain, lung, heart, skeletal muscle and of all of the abdominal viscera.

Sections from the bitten area of the rat showed the following changes: There was a decided hemorrhage out into the tissues, and all of the cells were pigmented with hemaglobin. A great many of the red cells had lost all of their coloring matter and were merely hyalin discs, which failed to take an eosin stain.

The tissues in this area stained very poorly in those rats that lived longer than a few hours; in the tissues of the rats that died within a couple of hours there was little deviation from normal in the degree of staining. The nuclei maintained their affinity for stains much better than did the ordinary stroma of the cells.

The degeneration seemed most marked in the endothelial lining of the blood vessels, especially in the ecchymotic areas around the bite. There were frequent areas of endothelial exfoliation, and only the nuclei of the cells stained at all, and these very poorly. The cytolytic effect here was marked. Some of the cells were very much swollen, while others had ruptured, losing their nuclei.

The brain in the rats dying early showed very little pathology other than a tendency to hemastasis and hemaglobin pigmentation. There were no ecchymotic areas, and the endothelial cells seemed little affected, while the brain of the rats living longer than twenty-four hours were much more pigmented, and there was a decided rhexis

out into the brain tissues. The cells stained poorly, and showed areas of fatty degeneration. Numerous red blood cells were out in the tissues in little pools, and the pigmentation around these areas were perceptible microscopically. The heart and skeletal muscles, like the brain, were practically free from pathology except in the tissues of the rats living longer than twenty-four hours, and in numerous instances the nuclei seemed dislocated and separated from the center of the cells in the skeletal muscle, and the cardiac muscle showed minute areas of degeneration. In the muscle tissues there were certain areas which failed to take either nuclear or general stains.

Hemorrhagic areas were more in evidence in the liver and kidney than in other organs. In the rats that lived three days the livers were mottled, and certain areas were so degenerated that a confluence of cells was in evidence almost to the extent of minute cavity formation. The pancreas was the least involved of the abdominal viscera; in fact, I was unable to demonstrate any degeneration except of the endothelial cells, though the parenchymatous cells were pigmented. The kidney seemed to suffer equally with the liver, for there were marked evidences of hemorrhages into the uriniferous tubules. Bowman's capsule was ruptured and there was an exfoliation of the cells of the uriniferous tubule.

Urine in the bladders of the rats dying early in some instances showed hemaglobinuria, but I was unable to find any red blood cells. The urin of the rats dying later all showed both hemaglobin and hematuria.

My conclusions are that the rats receiving the larger doses of venom died early as a result of the action of pop gobulin on the nervous centers, respiration apparently most affected, for after two of the rats had ceased to breathe for two minutes I opened the thoracic cavity and the heart was beating vigorously, and continued to beat for one minute. The rats dying later than ten or twelve hours, I believe, death resulted from degenerative changes taking place in the parenchyma of organs and the cytolytic action of the gobulin, the endothelial cells and red

blood cells, for smears of blood demonstrated a marked hemolysis.

As to the action of alcohol, it caused the rats to succumb earlier to the effects of the snake venom than did the rats that were bitten and injected and had no alcohol. Alcohol certainly did not have any antidotal properties, for, mixed with the venom before injecting the rats did not modify its toxicity, and rats saturated with whisky before and after being bitten did not seem to have the same amount of resistance as rats that had no whisky. I then am led to believe that whisky has no antagonistic properties, for the rat given whisky died earlier than did a like size rat with the same dose of venom without whisky. I, too, believe that alcohol is detrimental, for the globulin of the venom acting on the endothelial cells affects the integrity of the vessel walls, and the short time that alcohol does act as a stimulant, which is a very few minutes by chemical irritation alone, blood tension is raised and the weakened wall under higher tension is liable to rupture and apoplectic areas appear in some of the most vital structures. The peptone of the venom action on the vasomotor centers is going to soon lower tension and a starvation of the vasomotor constrictor apparatus result, then alcohol coming along with its secondary and lasting action has a tendency to still lower blood tension and that typical vascular paralytic picture of shock result.

If the body cell makes any effort to antidote snake venom, and we know that an animal can be immunized by small graded doses, it is by a chemical metabolic change in the protoplasm of the cell. The cell getting small doses of venom combines by means of its receptors with the poison radical, there is at once, unless the cell is chemically paralyzed by the poison, a rapid rearrangement of the chemical make up of the cell and side chains are generated in excess and thrown out into the circulation to combine with the poison radical before it has reached and fixed itself on the cell. Now, if a cell is to combat poison by the generation of an immunizing body it certainly needs

every particle of its chemical energy in order to metabolize this antidoting substance.

Numerous investigators, such as Metchnidoff, Morganrath, Neufel and others, have demonstrated that alcohol inhibits protoplasmic activity. The white blood cells amoeboid motion and phagocytic activity is impeded. Alcohol very much lowers the opsonic index of the white cells, so the chemical activity of cells is interfered with materially by alcohol. Then why should we depress a cell just when it is called upon to make its greatest fight?

We believe that every cell has a certain chemical make-up and manifests certain unsatisfied valences by which it attracts appropriate food stuffs on the basis of chemical affinity, and that as a result of metabolic changes this food is converted into energy of different types according to the cell.

Unfortunately for mankind the cells have unsatisfied valences that have an affinity for poisons, but unless the poison is too virulent it is metabolized into an inert substance and the cell at once goes to work to protect itself against another dose of that same poison by rapidly generating side chains that have an affinity and neutralizing effect on that poison. The side chains are made in excess, are thrown into the circulation to combine with the poison before it reaches the cell, and we know that it makes no difference how much toxine is in circulation unless it comes in contact with a cell that has an affinity for it, that it is non-toxic to the individual. So if the cell is to generate its own antitoxin, how much more effectively it might do this when not depressed and intoxicated with alcohol.

I believe that many a man has been killed with huge doses of whisky instead of dying as a result of snake venom, and I believe the same rule will hold good in bacterial intoxication.

I intend to experiment further with the snake and rat, with the rat under the influence of other remedial agents, such as permanganate, strychnine, etc., had not my snake met such a tragic death so early.

A TREATMENT OF BURNS.*

BY J. M. MORRIS, M. D.,
LOUISVILLE, KY.

AS THE treatment of burns may become a necessity with any physician or surgeon, whether he so desires or not, because, when some unfortunate person is burned, the physician or surgeon nearest by will be summoned, I have thought a discussion of this subject here this evening might be of some benefit to us, and possibly to some unfortunate patient in the future. For ease of comprehension, burns have been divided into classes or grades according to their severity, and are called burns of the first, second and third degree. When the surface of the body comes in contact with a slight elevation of temperature, say one hundred or one hundred and two degrees, a slight hyperaemia is produced which will disappear in a short time after withdrawal of the heat without any treatment other than mere protection of the injured surface; such injury would properly belong to burns of the first degree. But if the body surface comes in contact with a temperature elevation, say one hundred and fifty degrees or more, a different condition will be the result, causing the appearance of vesicles and bulla with the destruction of the epidermis, the effects of which are not relieved for several days, or perhaps weeks, after the removal of the excessive heat. This condition would properly be classed as a burn of the second degree. And to follow this division or classification still further, and say the body surface should come in contact with boiling water, a complete carbonization of the parts would result, causing the formation of scars, varying in color from a yellow up to a dark brown or black. In other words, a gangreous condition would exist. This condition would be called a burn of the third degree, which we shall see later requires much more time in getting well than the other two conditions above mentioned.

A most recent form of burn is that induced by the ap-

* Read before the Louisville Clinical Society, November 10, 1908.

plication to either the covered or uncovered skin of the X-ray apparatus. The indirect contact of electricity produces in some instances either superficial or deep inflammation of the skin. This inflammation may be apparent shortly after the exposure, or it may be some days or even weeks before it develops. This form of burn, in some instances, affects the skin alone, while in others it affects deeper structures. We are taught that the X-ray in itself is incapable of producing this injury to the tissues, and the dermatitis which we call an X-ray burn is an interference with the nutrition of the part by the induced static charges. Mucous surfaces often become involved from the inhalation of steam or flame, also by certain substances acting directly, as ammonia, sulphuric or hydrochloric acid. In such cases the mouth, larynx, pharynx, bronchi and oesophagus, as well as the stomach, share in the trouble. The eye, from its exposed condition, often becomes the seat of burns, producing conjunctivitis and other troubles.

The constitutional effects of burns of the first degree are transitory, and will usually disappear rapidly after the source of the burn is removed. In burns of the second degree the pain accompanies the phenomena, not only for hours, but often for days and even weeks. The shock may be transient or produce alarming symptoms. It may be encountered at the time of accident, or may be delayed for several hours or even days after the injury. Death will frequently occur when one-third or one-fourth of the body is burned over. Burns of the third degree may be so severe that death may ensue from shock before any appreciable pain appears, the patient lying in a perfectly quiet state, giving no symptom of suffering. Before taking up the treatment of burns, I shall note some of the complications which accompany or follow these injuries. The after effects of burns may be concentrated upon the viscera or directly upon the parts affected. Burns of the first degree remain uncomplicated, while those of the second and third degrees present many variations. The meninges, as well as the brain proper, may become congested, or

even highly inflamed. The patient becomes restless, and even delirious, ending either in convulsions or coma. Tetanus is another complication sometimes observed, and usually occurs early after the injury. Bronchitis and pneumonia occur, either from inhalation of the flames or indirectly from surface burns. Involvement of the gastrointestinal tract, with formation of ulcer, frequently multiple, is sometimes the result of burns. Sometimes the colon is the seat of the ulcer, causing diarrhea. In such cases we would likely have rectal hemorrhage, possibly perforation, with peritonitis.

The treatment of burns must be both constitutional and local. Constitutional treatment consists of relieving pain and sustaining the patient. Pain is best relieved by the administration of opium in some form, the hypodermatic use of morphine proving the most satisfactory. I would say here that the amount required to relieve pain in case of burns is much larger than under ordinary conditions, because of the sudden character and great amount of shock, and corresponding depression in these cases. It is necessary, under such conditions, to restore vitality as quickly as possible. The use of ammonia, strychnine, caffeine, alcohol, hot drinks, as hot milk or tea, hot water bags or bottles placed alongside the patient, or other artificial means of heating the body should be resorted to as quickly as possible. The functions of the body must be watched and regulated, especial attention being paid to the kidneys; for, as we all know, sudden and alarming conditions of the kidneys often occur after severe burns. Parenchymatous degeneration both of the kidneys and the liver have been found by autopsy in many cases.

The local treatment is to be directed toward the limitation of the resulting inflammation, the prevention of septic infection, assisting the normal elimination of the eschar, development of the granulations and limitations of the deformity. In burns of the first degree many cases will demand no particular treatment except that which the family may administer, such as application of the bicarbonate of soda, white of egg and sweet oil, lead

water and laudanum, application of cold and other simple remedies usually at the command of the housewife.

Burns of the second and third degrees must be dealt with more strenuously. It is often difficult to determine at once which of the many remedies is the more soothing, and from which to expect the best results. In one case we would prefer the hot application; in another cold; in some cases wet applications are better; others do better with dry applications.

As a rule, when vesicles are very numerous over the burnt surface, it is best to allow them to remain, but if only a few are present, they may be evacuated. Prof. S. D. Grosse had a custom in many mild, as well as some severe burns, to use ordinary white lead paint, applying it as the painter applies it to a piece of furniture, and with this simple remedy would often produce very gratifying results. There are many remedies of unquestioned value in the treatment of burns. I shall mention only a few.

First, I should mention carbolized vaseline. Two to three minims to the ounce has proved very satisfactory in my hands. Subnitrate of bismuth, one-half to one drachm to the ounce of oxide of zinc ointment or lanolin. Saturated solution of boric acid, applied freely or in the form of ointment, is useful. Turpentine, when granulations are sluggish, will give excellent results, applied either in full strength or diluted, as the case may seem to indicate. It is claimed by some that turpentine applied to a burn either of the first, second or third degree will give almost immediate relief, and if continued will greatly hasten the healing of the wound. Ichthyol is recommended by many as being of use, especially in burns of the first and second degree, the best method of applying it being in the form of ointment; ichthyol one part to zinc oxide ointment four parts. Thyol has been found useful in burns of all degrees, the application of equal parts of thyol and water being the most satisfactory way of using it. Aristol is another preparation highly recommended in the treatment of burns. It may be used in powder, or mixed with oil or vaseline. I very much prefer the latter way of using it,

because when applied dry it forms a crust, and prevents the secretions from the burn from escaping. Pieric acid has of recent years come into general favor with many physicians, especially the French, as a dressing for burns, and there can be no question but that it compares very favorably with any remedy already mentioned.

Perhaps the best way to employ this dressing is to dissolve one and one-half drachms of the acid in three ounces of alcohol, and this be added to two pints of distilled water, this producing practically a saturated solution. This may be applied to the burnt surface as often as necessary and in any manner that seems best. A very good method of dressing is to saturate plain gauze with the solution and apply locally to the burnt surface, covering this with linden gauze or wool, followed by loose bandage over all.

It is needless to urge the great importance of antiseptics and thorough disinfection of burnt surfaces. Too much stress cannot be placed upon the importance of keeping the injured parts and surroundings aseptic, for if this is overlooked the patient may recover from the shock only to die later of blood poisoning; for the fatal results in cases of extensive burns is often the result of absorption of toxic material derived from chemical changes which take place in the burnt tissues, and one means of prime importance in preventing these chemical changes is to first remove all charred and necrotic tissue from the burnt surface. This necrosed tissue should be removed whenever formed, as it is a great hindrance in the progress of restoration of the destroyed tissue. I should like to say that in recent years skin grafting has been practiced in many selected cases of burns with very gratifying results, and I believe the practice will become more general, as its simplicity and good results become more generally understood.

In closing this paper, I beg leave to report a case which I have had under my care for the last four months. The case of which I desire to speak is that of a child nine years old, whom I was called to see June 28th last. She

was playing in the back yard of her parents' home with some other children.

From the explosion of some fire-works a very loose fitting dress of some light fabric, which the child was wearing, caught fire just above the waist. The flames rapidly went upward, and before assistance could arrive the clothing was burned almost entirely from the body from the waist line up, the arms being as badly burnt as the other parts of the body.

There was approximately 220 square inches from which the skin was entirely destroyed, leaving the flesh in a charred and exposed condition. The shock was so great that the child was suffering apparently little or no pain. I bound the child's body in plain gauze saturated with charron oil, which, as you all know, is composed of equal parts of linseed oil and lime water, and placed her on a hard bed. I did not remove the dressings for six days, but kept them constantly saturated with this same preparation, at the end of which time I removed the dressings and found that suppuration was taking place over the entire burnt surface. I disinfected the condition with weak carbolic acid solution, removed all the necrotic tissue possible, and redressed the injury with carbolized vaseline. I continued this disinfecting and redressing the injury for three weeks. At the end of this time suppuration had very much diminished and granulations were springing up in different localities.

At this time I determined to change from the wet to the dry dressing, which proved to be very detrimental to the patient. I applied a dusting powder composed of aristol, boracic acid and bismuth, and very much to my chagrin and discomfort general suppuration again set up all over the burned area, taking on a condition having very much the appearance of gangrene. This sloughing continued for several days till the condition looked almost as bad as at first. And just here I would like to say it is never a good plan to change from a moist to a dry dressing, nor from a dry to a moist dressing in the treatment of burns, for this change will always do harm and never

any good. I then went back to the first dressing of carbolyzed vaseline applied on gauze and held in place by loose bandages. Improvement began again, and has been continuous, although apparently slow, to the present time, the size of the surface yet unhealed being now about the size of a silver half dollar. The general condition of the child is now good; she goes where she likes, eats and sleeps well, has no deformity, and the scars on the body are not so unsightly as we would expect to follow a burn so extensive as this.

I would like to add that Dr. John Wathen saw the case with me, and we agreed that skin grafting would be advisable, but the family did not think well of the idea and we did not insist, as the patient was doing quite well.

DISCUSSION.

DR. IRWIN: I have listened very attentively to the essayist's paper. He has chosen an unusually important subject, and has given us a detailed account of the various remedies employed in the treatment of burns. There are two points which I think will bear emphasizing—that the injury to the peripheral nerve means a great deal; it means the destruction of these nerves or changes in the nerves. Second, the relief of pain incidental to the burn. I know of no remedy equal to carron oil for burns moderately severe in character.

I have found the moist dressing the most practical in treating burns. We all know that the peripheral nerves grow and develop far better in moisture than if kept dry. Therefore, the moist dressing is the most practical, and, in my opinion, it is never necessary to change from the moist to the dry dressing until after the wound has practically healed.

There is one remedy for burns which I have used in late years, and which I have found to be very serviceable and unquestionably antiseptic, and that is a five per cent. solution of argyrol, but the skin must be kept constantly moist; otherwise, the fever that develops will cause the dressing to stick, and its removal may be rather painful to the patient.

There is another point in the treatment of burns that the essayist did not mention; for instance, suppose you have a burn on the forearm or on the face. In order to prevent cicatricial contraction, which invariably occurs in a burn of any severity

where the skin is involved, I have been applying to the healthy skin around the burn adhesive plaster, drawing it tight, and pulling it away as much as I could from the center of the burn, so as to allow it to heal up without contraction.

I have found these adhesive strips very serviceable, and I know from experience that they will prevent cicatricial contraction of the skin on the face, neck or arms.

DR. MARSHALL: I enjoyed Dr. Morris' paper very much indeed. The subject has been unusually well handled.

There are two or three points I wish to mention. One is with reference to determining the depth of a burn by the duration of exposure and the temperature. In my experience, this also plays an important part in the amount of destruction done. A very short exposure to a high temperature will not produce the destructive changes that a longer exposure would. In practical work we see very great differences in the burns produced by the variety of substances by which these injuries are received. For that reason, when a substance that retains its heat for some time comes in contact with the skin, it produces much greater destruction and a much deeper effect.

With reference to electrical burns, it is very interesting to note the difference we see in flash burns and high contact burns. I was very much interested in the essayist's remarks about the uncertainty of electrical burns. This a feature which I have observed, particularly in my work. Often I have seen a case and thought it was a very slight burn, and in twenty-four to forty-eight hours there would be grave developments. When you first see a burn of this kind you cannot tell what its depth is going to be.

In regard to the treatment in a burn of the first degree I feel that it is well cared for by simply covering with a dry dressing and warmth supplied. In deeper burns I have been able to give a good deal of comfort by the use of unguentfin. I use a great deal of this in my work. Very often where the burn is circumscribed—I mean by that a surface burn of small extent, but rather deep—I have thought I made headway by applying anti-phlogistine, covering it, and preventing suppuration in that way. I do not believe that it is wise to do so much, as some people do, in the way of cutting away the burnt tissues. I have thought that we often destroy parts that would possibly remain. In those cases which are circumscribed in extent I have found that unguentfin acted well in softening the parts.

In regard to changing the dressings, I was very glad to hear the doctor say it was his belief that the dressings should not be changed too often. Frequent changing of the dressing is a pernicious and unnecessary proceeding. As long as you can possibly keep the part sweet the dressing should not be disturbed.

Another point about the treatment that I think is very valuable, and that is the bath treatment. I believe the continuous bath is by all means the best treatment for burns of the second and third degree. You can use any simple method of purifying the water that you choose. It is the continuous exposure to the water that protects these patients, and it is the best treatment by all means. It is also the best treatment in cases where the tissues are crushed.

DR. RAVITCH: I only wish to mention a few points about X-ray burns. The pathological skin is never affected by the X-rays, but the healthy skin is affected. I have been doing X-ray work for nine years, and I must have given in the neighborhood of forty thousand seances, and I have never yet seen a burn of a pathological skin.

I have had a number of X-ray burns sent to my office for treatment, and I have found that peroxide of hydrogen is the best remedy of all. In the beginning it will burn, but afterwards it has an anesthetic effect, and the patient becomes very comfortable.

In regard to burns in general, I do not like to use too much morphine, because some people are very susceptible to it, and we very well know that it may sometimes cause pruritus, and may occasion quite a good deal of discomfort.

I do not believe in the use of picric acid, for the reason that it sometimes causes an eczematous condition of the skin.

In regard to the use of baths in burns, I don't doubt it does lots of good. It makes the patient feel very comfortable; the pains are almost relieved. But the water bed affords no protection against the first symptoms of intoxication and the acute fatal course.

DR. G. S. HANES: There is one thing about burns that I never could understand. I can point to several persons whom I know personally, living in this city, who have at some time been exposed to the X-rays and have received a burn, and those burns have never healed. If we have destruction of a certain amount of tissue from exposure to the X-ray, why will it not heal as well as a case in which the same amount of tissue is destroyed by

contact with flame—a hot iron, steam or hot water? In one case of this kind who came to our office for treatment, the patient had seen nearly every physician in town. He suffered intensely from constipation, and seemed to be very much disordered generally.

For some reason or other I had him exposed to the X-rays. I was present when the application was made, and did not think of such a thing as the man being burned. The X-ray revealed nothing, and after that the man disappeared, and I did not hear anything from him for a week, when he returned with a ——— on his back. A week later he showed up with a typical ——— on his belly. As I now remember it, the tissues were broken down on the back, and there was an ulcer the size of a paper dollar. I worked with that man for ten months before I could get those places to heal, and I am sure that if they had been caused by a hot iron, or a flame, or hot water, and the same amount of tissue had been destroyed, they would have healed in less than three months. During this time he suffered intensely; in fact, I have hardly ever seen such intense suffering from anything. However, it seemed to cure him of his disorder. I saw him a short time ago, and he told me had gained twenty pounds and had never felt better in his life.

DR. CHEATHAM: The essayist, in his paper, made some reference to burns of the eye. I see this class of burns frequently, especially those resulting from hot metal, particularly hot solder. It is marvellous how far nature will go to protect the eye by the aid of tears. When the hot metal comes in contact with the eye it seems that a hot steam generates and holds the metal off. I have rarely seen a deep burn of the eye from hot metal, although conjunctiva burns are usually worse than corneal burns. I have never seen much trouble follow burns of the eye.

DR. FLEXNER: Like the gentlemen who have preceded me, I have enjoyed the paper very much indeed.

It has always been an interesting question as to the relation of ——— manifestations of extensive burns and the underlying cause. I think it was Barton who determined that it was simply the result of depression following the shock. For years men have been battling almost continually against ——— following extensive burns, and I think it has been determined that it is the result of shock and diminished resistance, and often a diminution of hydrochloric acid in the gastric juice that follows such destruction of the tissues.

Some one called attention to kidney involvement in extensive burns. This, I think, must be considered for more reasons than one. First, because of the additional work thrown on the kidneys by reason of the destruction of so much skin. Next, in the choice of remedies we must be careful to select such as would not give rise to kidney troubles primarily. It is for this latter reason that I have steered away from picric acid.

I have recently begun the use of —— zinc dressings. I think the essayist is right when he says we ought not to change the dressings too frequently, and for that reason the —— zinc makes a good dressing. In burns of the second degree I have been thoroughly satisfied with it, particularly those following contact with hot water. I have not hesitated to open the blebs, powder it thickly, put on the dressing, and then leave it severely alone, and I have gotten as good results from it as from any dressing I have ever used.

I have seen some very stinking burns under the carron oil dressing. Even the comparatively light burns sustained about the kitchen, if dressed in carron oil, will in a few days smell very badly, and I do not know but that there is some value in the suggestion to use boiled oil.

In regard to X-ray burns, I have always felt that the word "burn" should not apply in such cases. It is really not a burn. Among the earliest results of this X-ray dermatitis are thrombosis of the smaller vessels and the destruction of —— nerves. This goes on to gangrene, and when sloughing takes place we are dealing with an actual destruction of tissue, so that recovery is necessarily slow. I sent a lady to Dr. Ravitch in the hope that the X-ray treatment might relieve her neuralgic pains. It did not, and in addition she received a burn.

DR. JOHN R. WATHEN: This subject is one in which I am especially interested for the reason that, being surgeon to an establishment where bath tubs and other enameled ware are manufactured, I have had occasion to treat a large number of burns in the past ten years. I think I have averaged at least ten to fifteen burns a month. In this extensive experience I have been able to form some very positive conclusions. In a recent article by a surgeon who has for fifteen years been in the service of the American Steel Company, published in a Philadelphia journal, he sets forth a number of conclusions based on about twenty-six hundred cases of burn, and I am glad to say that my views were in perfect harmony with his. Like him, I

have seen very few burns of the first or second degree, most of them being of the third degree, right into the muscles and deep structures.

Sometimes, in a very extensive burn of this kind, there is no pain at all, the complete necrosis having burned out the nerves to a certain extent. In other cases the pain is intense. In such cases no attempt should be made to relieve the pain by local applications. They should be given anywhere from two to five grains of morphine. As a rule, I load the syringe with about a grain, and inject about half of it at first and the rest as it is needed. This will put the patient in a state of almost complete anesthesia, and enables you to get at the burn with soap and water, and the sooner we realize that a burn should be thoroughly cleansed before it is dressed the better results we will get. Suppuration is practically unknown in my work, and I believe if we could get the patient to the operating room and sterilize the parts with the same care that we sterilize an abdomen after it has been opened, we should accomplish a great deal better results. All the large blebs should be opened and cleaned out. Go right down to the bone if you have to. They can be satisfactorily cleansed with a simple sterilized boric acid solution. The bath treatment is the ideal treatment, but it cannot often be carried out. I am heartily in accord with what the essayist says about unguentum. It is a mixture of ——— carbolized vaseline, zinc and various other things, and it will stick, which is a great advantage.

Now, as regards the frequency of changing the dressing, there is no law as to the time a dressing should be changed. It is a question of keeping the part thoroughly clean. Suppuration should not be allowed to take place if you can avoid it. Citrate of zinc is an ideal treatment for removing blisters. Dry the part and dust it over, and it seems to form an artificial scab. I have never seen anything but bad results follow the use of carron oil or picric acid. Skin grafting should be resorted to in very extensive burns.

The fundamental part is to treat burns as we would all other wounds; keep them clean, and you will get beautiful results.

As regards morphine, I have seen men that three or four grains would not affect as much as one will affect the ordinary patient.

Just one other point. There are two things that will produce

trouble and perhaps death. One is intense shock and the other is septic absorption.

DR. COOMES: I know of no subject that will create more discussion than that of burns. I have enjoyed the paper very much.

Some time ago I attended a meeting of the Southern Railway Surgeons, at Birmingham, and listened to a paper on the subject of burns, and of course it was very interesting, but what does the outsider think when he hears the dissenting opinions expressed in the discussion?

Picric acid was discussed at that meeting, and I am very much astonished to hear it condemned by the majority of those who have discussed the paper to-night. At the meeting I mentioned it seemed that most of them simply saturated their patients with it, and one of them declared that he had never seen any poisoning or ill effects follow its use.

I wish to say one thing about these eyelid burns. Some years ago I had a man with a very extensive burn of this kind, and it seemed impossible to prevent ——. In my desperation to prevent this I conceived the idea of making a shield the shape of the surface of the eyeball out of paraffin, thus lifting the surface free of the cornea. I saw that man the other day. He kept that paraffin in there for many weeks, and this case proved it to be a very good means of preventing these adhesions. A better plan, if it can be carried out, is to take a pair of retractors, and every day pull them out good and wide. If you can get them to do that it will prevent these adhesions, but it is difficult to carry out on account of the pain involved in the first three or four applications of the retractors.

DR. WILLMOTH: This is certainly a very interesting subject, and one that has brought out a very full discussion.

The only thing that remains for me to do is to emphasize some of the points that have already been made. To begin with, I was surprised to hear Dr. Flexner say that the duodenal ulcer was the result of infection there. The old idea was that it was the result of chemical changes, but I thought that the surgeons had now pretty well settled on the fact that thrombosis of the smaller vessels, with the subsequent digestion of the slough, gives rise to these ulcers, and it is not the result of bile or something flowing down over it.

The keynote of the treatment of burns has, I think, been sounded by Dr. Wathen, when he says that they should be

treated as we treat any other wounds ; that is, they should be kept clean. If you use vaseline, it should be boiled and poured over the wound while in a liquid state, keeping the air out.

In regard to picric acid, I wish to say that it has been my experience that in about three cases out of every four in which it is applied it will irritate the wound, and, instead of getting easy, the patient will become wild with pain. In the fourth case the patient will be absolutely relieved as soon as you pour it on the wound.

At the suggestion of Dr. Park I treated one case of burn with a very simple remedy, nothing but molasses. I read of this treatment in his text-book, and simply out of curiosity I wrote to Dr. Park, and he advised me to try it. You would be surprised at the results obtained from it. The sugar that is in the molasses acts as an antiseptic. He advises that it be applied by putting the molasses on bibulous paper, and then putting this paper on the wound until it is covered. The wound remains clean, and we do not have the odor Dr. Flexner spoke of when carron oil is used.

The application of skin grafts to burns is one of the best means of preventing contractions. We all know that no scar tissue contracts as much as that following burns. The stretching by means of adhesive plaster spoken of by Dr. Irwin and the mechanical stretching suggested by Dr. Coomes are both good, but skin grafting will go a long way towards preventing the formation of cicatricial tissue, and prevent extensive contraction taking place.

DR. MORRIS (*closing* :) I feel very much gratified by the fact that every member present has taken part in the discussion of this paper.

There is just one point I wish to mention. I am not defending carron oil, but I think it is a fact that the linseed oil kept by druggists to-day has been boiled. I have always understood that it is boiled oil when used for this purpose. When boiled oil is used we do not get that unpleasant odor mentioned here to-night, and it has a very soothing effect on the burn. I think there is nothing more soothing to the patient, and nothing that will give better results than carron oil.

PREVALENCE OF DISEASE IN ONE OF THE
DUPLICATE URETERS.

BY BYRON ROBINSON, M. D.,

CHICAGO, ILLS.

DURING the past ten years I collected from autopsies and museums fifty partial or complete duplicate ureters. In the fifty specimens of ureteral duplicity twenty-four per cent. were afflicted with disease—(hydroureter)—of one of the duplicate ureters. In other words, hydroureter occurs in one of the duplicate ureters in twenty-four per cent. of subjects. The following twelve illustrations with one of the duplicate ureters dilated, selected from my fifty illustrations of ureteral duplicity, will tell its own story better than any description as regard the prevalence of disease in one of the duplicate ureters. When an article is illustrated merely suggestions may be announced. In the present blooming of reno-ureteral investigations it is well to bear in mind that the urologic tract is subject to numerous anomalies—and that anomalies may be dangerous structures. Accessory ureters are liable to infection, because the blood supply to one of them will be limited, hence, it will not resist bacterial invasion.

Ureteral catheterization is fast becoming a science, and to detect ureteral anomalies with associated disease is its successful domain. Accessory ureters are liable to present obstruction by not only hydroureter, but also by prolapse of the distal or vesical end and of the ureter. Prolapse of it, distal end of its ureter, is not well understood. However, I think it may be due to the lack of the periureteral sheath as the ureter traverses the bladder wall. It may also be due to congenital defect in the bladder wall where the abnormally ureter traverses it. The etiology of the hydroureter or ureteral obstruction (in most of the duplicate ureters) appears to be located almost entirely at the distal ureteral orifice—it may end blind or become closed by infectious process. The urologist should bear in mind that ureteral duplicity is a frequent condition. I have found six per cent. in 100 consecutive autopsies, and also

that twenty-four per cent. (one-quarter) of all ureteral duplicity possesses one diseased ureter.

Ureteral catheterization and X-raying should be more frequently employed in the face of uncertain diagnosis. If six per cent. of subjects possess ureteral duplicity (partial or complete—as I found in 100 consecutive autopsies) and twenty-five per cent. of said subjects are afflicted with disease of one of the duplicate ureters, it behooves the physician to remember that at least one subject in 100 may possess ureteral duplicity with one of the duplicate ureters ill.

UNILATERAL URETERAL DUPLICITY—(Dextra).

Fig. 1.—Dorsal view.—The distal ureter markedly dilated, (hydroureter). The ureter is not absolutely duplicate—an inch of the distal ureteral ends coalesce and dilate previous to entrance into the bladder—ending in a single vesicle ureteral orifice. The cause of death was interstitial nephritis (dextra), parenchymatous nephritis of left kidney. The distal coalesced extremity of the right ureter is cystically dilated. Ureteral catheterization might decide this condition with X-ray of ureters in situ. (Drawn from specimen in Prague Pathologic Institute and presented to me by Prof. Kretz).



Fig. 1.

UNILATERAL URETERAL DUPLICITY—(Sinistra).

Fig. 2.—Ventral view.—The proximal ureter of the left side is dilated, that is, one of the left duplicate ureters is a hydro-ureter. The distal termination of the distal ureter on the left side presents malposition—ends in internal orifice of urethra. No ureteral crossing exists. This is an unusual anomaly, and is perhaps due to distortion. The proximal ureter, in ureteral duplicity, ends distalwards and medialwards to that of the distal ureter, as a rule. (Drawn from specimen in Prague Pathologic Institute and presented to me by Prof. Kretz.



Fig. 2.

UNILATERAL URETERAL DUPLICITY—(Sinistra).

Fig. 3.—Ventral view.—The proximal ureter of the left side is dilated. That is, one of the left duplicate ureters is a hydroureter. The distal end of the proximal ureter on the left side ends blind. The ureters cross each other dorsal to the bladder. Ureteral catheterization would not decide this anomaly. (Drawn from specimen in Prague Pathologic Institute and presented to me by Prof. Kretz).

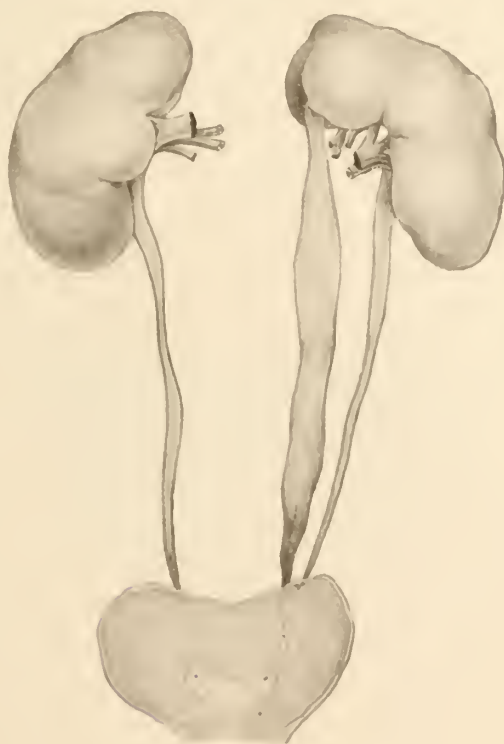


Fig. 3.

UNILATERAL URETERAL DUPLICITY—(Dextra).

Fig. 4.—Ventral view.—Man sixty-three years old. Died of marasmus and emphysema. One of the duplicate ureters of the right side is dilated. That is, it is a hydroureter or presents prolapse, cystic dilatation of the distal end. The cystically dilated ureter ends in the prostatic urethra. (Drawn from specimen in Prague Pathologic Institute and presented to me by Prof. Kretz).

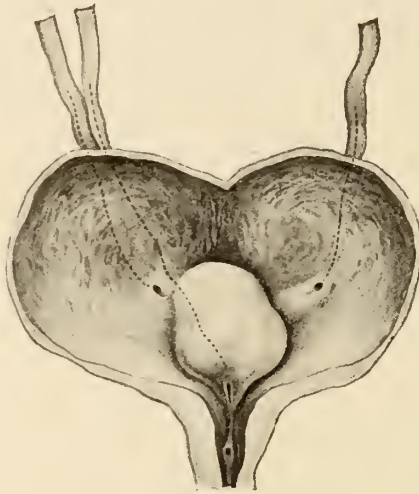


Fig. 4.

PARTIAL BILATERAL DUPLICITY.

Fig. 5.—Bilateral partially duplicate ureters with extensive dilatations due to urethral obstruction. The calyces (1, 1a), pelvis (2, 2a), ureter proper and bladder produce one continuous patent channel—the uretero-vesical valve is lost. The bladder is prominently trabecular. The ureters do not bifurcate at the same bilateral location, 1a, 2a, distal calyces and pelvis. Partial urethral obstruction produces general ureteral dilatation with parietal hypertrophy. This specimen presents hydroureter; ureteral catheterization alone with X-ray could determine this condition. (Specimens presented to me by Dr. A. M. Stober).

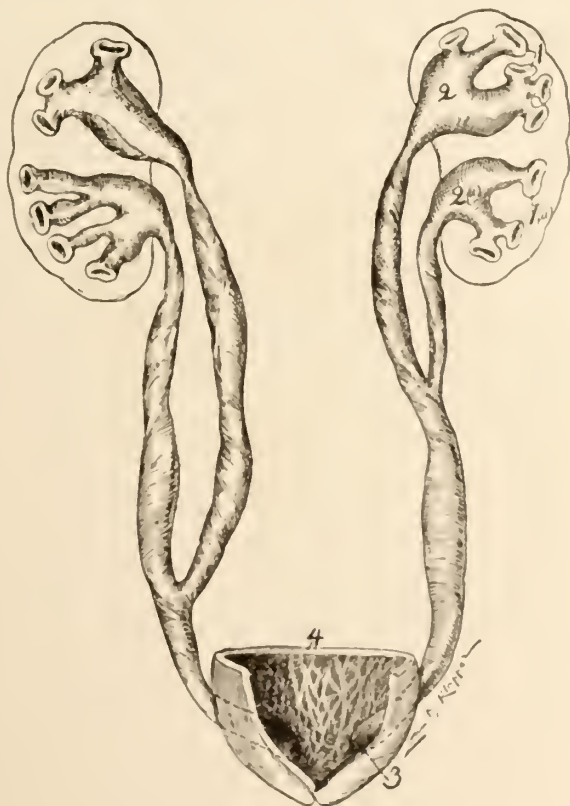


Fig. 5.

UNILATERAL URETERAL DUPLICITY—(Dextra).

Fig. 6.—Complete unilateral ureteral duplicity.—The proximal ureter (A) presents reduced calyces (1), and pelvis (2), with moderately marked isthmuses (3, 5, 7) and dilatations (2, 4, 6). The proximal ureter has its vesical orifice located medianward and distalward to the orifice of the distal ureter. The distal ureter (B) is a hydroureter with cecal or blind vesicle end. The ureteral dilatations reservoirs (1, 2, 4, 4a, 6) and isthmuses, constrictions (3, 5, 7a), are visible, though the entire ureteral dilatation is extensive. The vesical orifice of the distal ureter is located in the trigone proximalward and lateralward to that of the proximal ureter. The ureters cross each other in the lesser pelvis. Ureteral catheterization would be uncertain unless catheterized and exposed. (Sketches from a specimen in the Pathologic Museum of Rush Medical College, through the courtesy of Prof. Le Count).

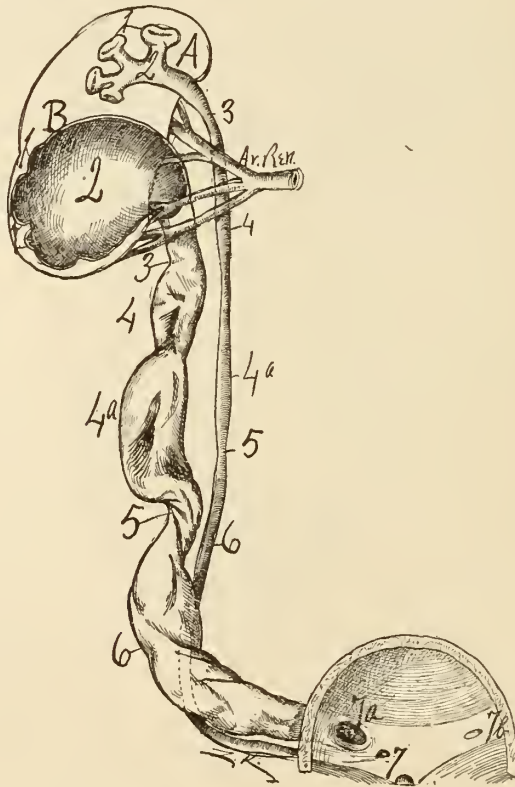


Fig. 6.

UNILATERAL URETERAL DUPLICITY—(Dextra).

Fig. 7.—This specimen presents dilatation of both arms (proximal and distal ureter) of the right ureter. Ventral view.—This specimen presents vascular-ureteral crossings which could end in hydroureter (of calyces and pelvis) with facility. I secured this peculiar specimen at an autopsy. Catheterization would be in this subject without the ureteral catheter in situ and an X-ray.

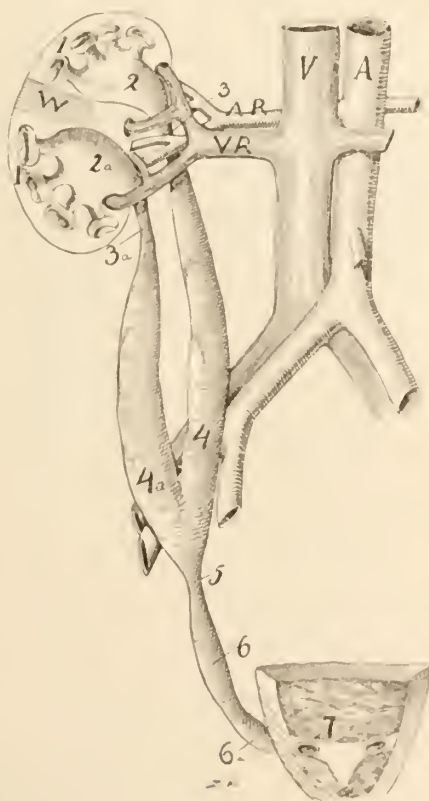


Fig. 7.

PARTIAL UNILATERAL URETERAL DUPLICITY—(Sinistra).

Fig. 8.—This specimen, present abnormal dilatation at 4 and 4a as well as 6. It is a hydroureter. The vasculo-ureteral crossings present facilities for hydroureter by vascular compression. Catheterization would be uncertain without an X-ray while the catheter was in position. (The specimen presented to me by Drs. Walsh and Stober).

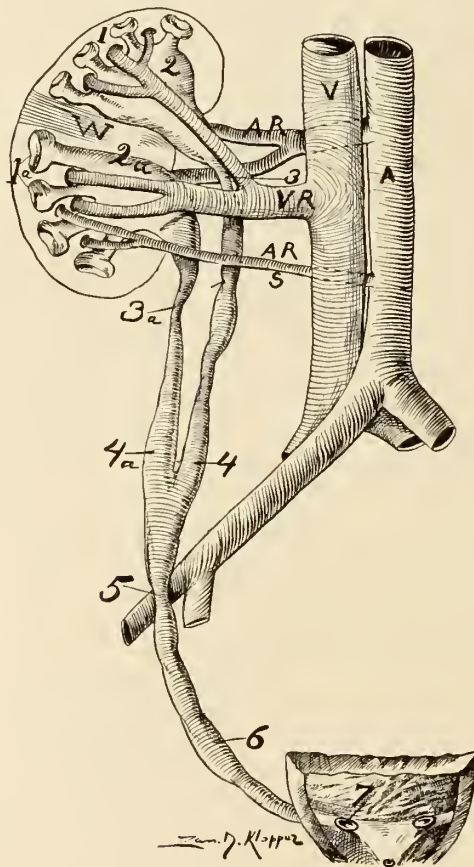


Fig. 8.

UNILATERAL URETERAL DUPLICITY—(Sinistra).

Fig. 9.—Dorsal view.—Man. Man died of carcinoma of bladder. One of the left duplicate ureters (the distal one) is dilated. It is a hydroureter. The distal ureter of the left ureteral duplicity is diseased. The proximal ureter is normal. The proximal ureter of the left ureteral duplicity appears to be performing all renal secretion. (From Rush Medical Museum, through courtesy of Prof. Le Count).

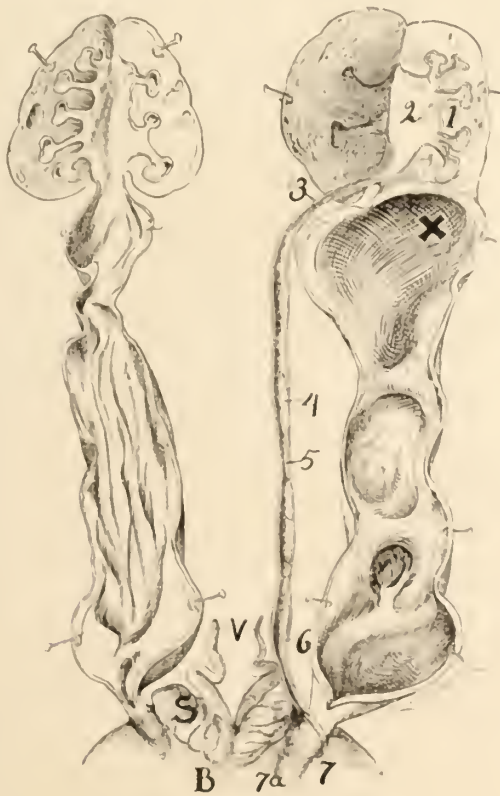


Fig. 9.

UNILATERAL URETERAL DUPLICITY.

Fig. 10.—One of the duplicate ureters is dilated in the subject on the right of the illustration. In other words it is a hydro-ureter. Ureteral crossing exists; ureteral spirality and crossing exists. I secured these specimens at autopsy. In a series of 100 consecutive autopsies I secured six per cent. of partial or complete ureteral duplicity.



Fig. 10.

PARTIAL UNILATERAL URETERAL DUPLICITY—(Dextra).

Fig. 11.—Male fœtus.—Ventral view.—Left kidney and ureter normal. Right ureteral hydroureter. From the proximal isthmus of the right ureter a ureter (blind) arises and again enters (blind) the same ureter in the ureteral pelvic dilatation. There is one vesical ureteral orifice in the right side of the trigone. It is an obliterated ureteral lost—a rare specimen. Death from pulmonary atelectasis. This is the only case of this kind that I have observed in specimens or literature. The duplication of the ureter belongs neither to the proximal or distal ends—the accessory ureteral loop belongs to the middle portion of the ureter. (Drawn from specimen in Prague Pathologic Institute, and presented to me by Prof. Kretz).



Fig. 11.

URETERAL DUPLICITY.

Fig. 12.—The partially distal ureter of the left ureteral duplicity is dilated—it is a hydro-ureter. Ureteral catheterization in this subject could determine this condition with X-ray. (Drawn from specimen in McGill Medical Museum and presented to me).

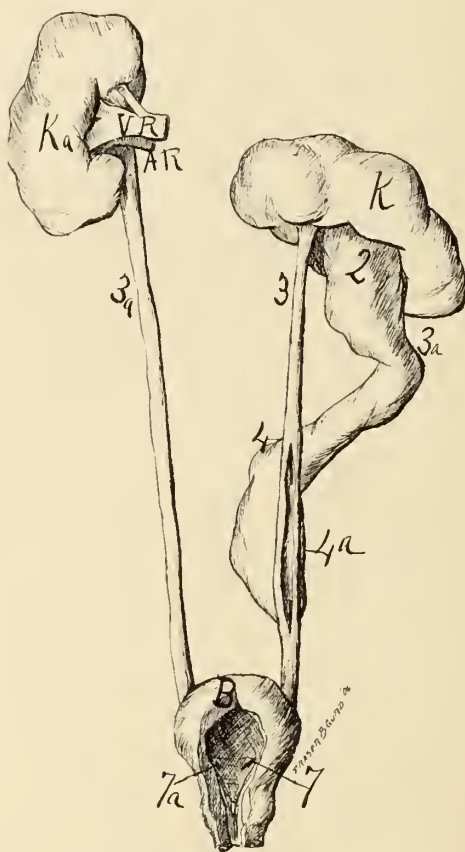


Fig. 12.

THE American Practitioner and News.

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Editorial.

Congenital Malformation. Conditions of Aplasia and hypoplasia are most interesting to us from a standpoint of embryology.

A misplaced cell or cells in the specification of tissues from the blastoderm, fails to develop or partially develops and we have an absence of or partially development of structures; this partial development or absence of structures must depend on some interference in arrangement or nutrition of those mesoblastic cells that have to do with the formation of blood vessels; a blood vessel shoot or sprig is not given off to what would be a certain area of the body, and that area as a result of absence of blood supply or an imperfect blood supply fails to develop or remains in a state of hypoplasia.

Of course, certain mechanical conditions "in utero" by constriction so interfere with nutrition as to cause an atrophy or hypoplasia of certain structures after the vascular apparatus have been formed.

A great many congenital deformities are attributed to maternal impressions, but every one familiar with embryology know how impossible maternal impression is, how completely the embryo is disconnected from any men-

tal condition of the mother. The embryo receives all endowment from the mother when the ovule is given off, after which time any thing that the mother might think, see or hear can in no wise affect the product of conception.

However, it is possible for certain conditions, such as shock or collapse so affecting blood tension in the mother as to at that time interfere with metabolism "in utero," and a too prolonged anemia of certain important structures might result in an inability of those structures to become resuscitated to the extent to complete the development of the structures for which they were specified in the blastoderm.

We attribute a great many of these aplastic and hypoplastic conditions to heredity, such as cleft palate, hare-lip, and club foot. The very fact that heredity seems to play some part in this failure to develop is evidence in favor that there is a tendency to a lack of development of the vascular system in the embryonic arrangement of organs, and if a blood vessel or system of vessels do not develop, then the structure dependent on this system must either fail to develop or partially develop, according to how complete the anostomosis is.

Some toxic, mechanical or nutrition disturbance of the blastoderm or later of areas of embryonic structure arrests certain governmental cells in the formation of tissue. This embryo goes on to foetus formation and there is an absence of certain structure or a partial development. The offspring in the embryonic stage has a more or less tendency to malformation, because the cells have a transmitted tendency from mother or father to be suppressed from the slightest irritation or disturbance, and the already weakened government cells by hereditary transmission are more or less affected.

We are familiar with certain infection and toxins transmitted to child (in utero) so producing changes in the endothelium of vessels, that an obstructive obliterative endoarteritis results in the strangulation of areas of tissue, and a congenital aplasia or hypoplasia presents itself. Then can we not correctly conclude that all congenital

malformation of the arrested developmental type result from an interference, either of the vascular system proper, or a disturbance of those mesoblastic cells whose function it is to develop the vascular system. E. S. A.

A DOCTOR'S SYMPHONY.

BY GEORGE F. BUTLER, M. D.

With this New Year resolve to live without anger, avarice, envy and littleness. Resolve to be generous, liberal and kind; to recognize the extreme value of health and human life and to strive by every means to roll back the tide of disease and death; to give something to shape the million-handed labor to an end and outcome that will leave more sunshine and more flowers to human kind. Let your labor be so ordered that in future times the loved ones may dwell longer with those who love them; open your minds; exalt your souls; widen the sympathies of your hearts; face the things that are now as you will face the reality of death—fearless and alone. Remember that the battle of life cannot be fought by proxy; be your own helper.

Go thou alone—
Let not thy courage fail,
Nor weight of pain avail
To stay thy onward feet.
What e'er betide thee sink not
E'en in thy anguish think not
Under God's generous sun
So much of sorrow lives save goodness to complete.

Go thou alone—
Though friends and fortune pass
Beyond thee, and alas
Love's visions fade away,
Look to the stars and ponder
How poor thou art, and wonder
How the vast undertone
Of thy creative thoughts could
blossom in a day.

Go thou alone—
The breathing atom in thee
Shall one day rise divinely
From this its cradled home.
Be wise and brave and loving
From lowliest essence moving
In circlets one by one
Up to thy perfect shape,
the highest earthly power.

Dedicated to the Medical Profession and offered simultaneously to its press.

Recent Progress in Medical Science.

EYE, EAR, NOSE AND THROAT.

IN CHARGE OF

A. O. PFINGST, M. D.,

AND

SAMUEL BROWN HAYS, M. D.

Intracranial Complications of Otitis Media.—J. F. McKernon, New York, (*Journal A. M. A.*, January 9), discusses the intracranial complications of middle ear disease, their location, frequency, etiology, symptoms, diagnosis and treatment. He enumerates them in the order in which he has most frequently encountered them, as follows: 1. Pachymeningitis; 2, epidural abscess; 3, thrombosis of sigmoid sinus; 4, meningitis of the serous type; 5, thrombosis of the jugular bulb; 6, thrombosis of the internal jugular vein; 7, brain abscess, middle and anterior fossa; 8, cerebellar abscess; 9, purulent meningitis; 10, encephalitis; 11, subdural abscess; 12, thrombosis of the petrosal sinuses; 13, thrombosis of the cavernous sinuses. The diagnosis of the first two is usually made at the time of a mastoid operation, and their treatment calls for the removal of all diseased bone. Thrombosis of the sigmoid sinus is very often met with; in typical cases the high temperature is an important symptom, chills occur in about half the cases, and edema is occasionally marked over the mastoid. Muscular rigidity is present in advanced cases. Atypical cases usually develop a few days after the mastoid operation, and an important diagnostic sign is the healthy appearance of the wound in the early stages of the disease, except over the bone of the inner table which forms the sigmoid groove, which is darker and free from granulations. If the infection progresses, in two or three days the previously healthy looking parts will look pale and the granulations begin to break down. In primary bulb thrombosis, which occurs usually in young children from acute purulent otitis, the diagnosis in typical cases is based largely on the temperature changes, with the chill or chilly sensation preceding the rise of temperature following the mastoid operation.

In cases where the sinus is operated on at the mastoid operation, without prior symptoms as a guide, the diagnosis is based largely on physical signs, the flat, compressible, lusterless, gray-

ish or yellowish dura, etc. Bacteriologic tests and the polymuclear percentage (if 80 or over indicating pus absorption) in the blood count are of value and especially blood cultures. The dark color of the inner table covering the thrombotic area is a valuable sign.

In the treatment, if all infective material cannot be removed or normal return circulation cannot be re established and evidence of continuous septic process exists, McKernon advises ligation and removal of the internal jugular vein from the clavicle to its entry into the skull. The symptoms and treatment of brain abscess are given. In serous meningitis, which McKernon says is a not infrequent complication of extensive mastoid or sinus disease, lumbar puncture is given as an important aid in both diagnosis and treatment. In purulent leptomeningitis early operation and drainage are the most hopeful measures, but Cushing's suggestion of the use of urotropin to render sterile the micro organisms is mentioned. The prognosis of encephalitis from ear disease is bad, though a few patients recover with excision of the extruding brain mass, cauterization and packing with boric acid. Subdural abscess usually ends favorably after early evacuation and drainage. For thrombosis of the petrosal sinus, the only rational treatment is free exposure, evacuation and packing so as to obliterate the blood current. Thrombosis of the cavernous sinus is generally hopeless, though a few cases have been reported as recovering with complete loss of vision.

Operations in Middle Ear Suppuration.—E. B. Dench, New York City (*Journal A. M. A.*, February 8), says that tip tenderness of the mastoid occurring at the beginning of middle ear inflammation and persisting, in spite of free drainage, for forty-eight hours or more, is not necessarily an indication for operation. It may be disregarded if the ear is draining freely through an incision in the drum, if there is no pain and if the temperature is only slightly elevated. With these conditions reversed, local tenderness points strongly to the need of an operation within thirty-six hours from the beginning of the attack. Another important symptom is the appearance of the canal. A sinking of the upper and posterior wall of the external meatus, close to the drum, or an actual shortening of the meatus, indicative of pressure within the tympanic cavity, or, in rare instances, slight elevation of the posterior-inferior wall of the meatus point to inflammatory products within the mastoid requiring evacuation. The temperature in these cases, especially

in adults, is likely to be misleading, as a low temperature does not always mean that operation is unnecessary. The blood count has also been found of slight value by Dench. While it should always be made, other suppurative foci in the body must be excluded before accepting its indications as a guide to operation.

An acute suppurative otitis with free drainage by a drum incision should clear up in from one to three weeks, and a sudden cessation within that time or a profuse discharge continuing later, indicate the need of interference. Both the safety of the patient and the conservation of the function of hearing are favored, Dench thinks, by early operation in all doubtful cases. In the operation in these acute cases he emphasizes the need of special attention to the antrum, the cells of the mastoid tip and those at the root of the zygoma. In the after treatment he favors the open method. Recurrent mastoiditis after operation may be due to imperfect removal of tip or zygomatic cells, but almost always it is the result of caries of the tympanic vault which can only be relieved by the radical operation.

Every case of chronic middle ear diseases should, he holds, be submitted to the radical operation, and this not only in continuous, but also in intermittent cases and those in which the discharge is slight. A few cases of chronic suppuration with a small perforation in the lower part of the drum may recover after the establishment of free drainage, and in some cases of extensive destruction of the drum membrane, dermatization of the tympanum may occur, and these do not call for operation. They are the exceptions, and in all other cases he believes in the radical operation. The method of performing this is described at some length. His results with the radical operation have been satisfactory; in over 85 per cent. of his cases the ear has remained perfectly dry, and in most of the remainder the discharge has been greatly diminished. In less than 2 per cent. has a second operation been necessary. The effect on hearing has also been satisfactory. Dench considers the operation devoid of risk; the few patients who died, he thinks, were suffering from intercranial disease which the radical operation failed to relieve.

Cleft Palate.—G. V. I. Brown, Milwaukee, Wis. (*Journal A. M. A.*, February 1), cites the advantages of the operative relief of cleft palate; the relief from a distressing deformity, the more healthful conditions of the nose and pharynx thus made possible, the possibility of gradual permanent speech improvement throughout life, and of some degree of immediate

change for the better from the operation. No person with cleft palate need be utterly discouraged, however bad his condition; in nearly every case and at almost any age operation is advisable. In one of Brown's most satisfactory cases the patient was fifty years old at the time of operation. No unnecessarily forcible methods should be employed in early infancy, and bad results of early operation, which are frequent causes of slow speech, may be much benefited by corrective operations. The correction of deformities of the dental arch is also a matter of importance. He attributes considerable importance to heredity, not necessarily of obvious palate defect, but often of some peculiarity of speech which seems to have been transmitted to the offspring in an exaggerated form, and with manifest anatomic deformity. The avoidance of specially technical and complicated methods of speech training is also a point emphasized by him. He has seen better results from the simpler methods. The use of the voice in singing is mentioned as one of the easiest and most natural ways to overcome unfortunate speech habits.

The Ocular Tuberculin Reaction.—O. H. Wilson, Philadelphia (*Journal A. M. A.*, November 28), has tested the Calmette reaction in 202 individuals. He concludes from his experience that a positive reaction is a fairly reliable evidence of the existence of tuberculosis, but a negative result does not exclude it. Very advanced and moribund cases fail to react, also cases of miliary tuberculosis. Patient with healed or inactive tuberculosis may not react. The subcutaneous administration of tuberculin, in moderate doses, will not develop the reaction in healthy persons. In tuberculous patients it accentuates the pre existing inflammation and causes the appearance of the reaction. There was a positive reaction in three out of 55 apparently healthy subjects, and in 18 out of 25 such it appeared after a second instillation, indicating that a susceptibility (anaphylaxis) had been produced. This susceptibility was apparently not transferred to the other eye. The sensitization in the eye does not seem to be followed by any general hypersusceptibility, manifested by a reaction to the subcutaneous injection of tuberculin. A certain proportion of typhoid cases give a positive reaction (6 out of 11 of his cases). This is most often seen in convalescing cases. In the great majority of cases no constitutional symptoms are associated with the reaction; no alteration in the physical signs, such as often occurs after the subcutaneous use of tuberculin. As yet there is no ground for regarding the ocular reaction as a

group reaction. It has a certain prognostic significance; a prompt and vigorous reaction indicating that the patient is successfully combating the disease. In properly selected cases and with tuberculin of proper strength there is no serious danger; tuberculin solutions of 0.5 per cent. are best, and stronger ones should rarely, if ever, be employed. No more than two instillations should be made, the opposite eye being used for the second test, and the test should not be resorted to if the diagnosis can be made otherwise by physical signs and symptoms.

Headaches of Ocular and Nasal Origin.—Charles Graef, of New York, refers the production of a considerable proportion of headaches to nasal and ocular conditions. The chief causes of headache from the eyes are congenital hypermetropia and astigmatism. These errors of refraction may not show themselves until something happens to lower the vitality of the system, when the eye strain appears. One of the causes of cross-eyes is lack of binocular vision. Heredity of malformations is a factor in these abnormalities. A phlegmatic person will get along pretty well with his errors of refraction, while a nervous one will be made very uncomfortable. Pathological condition of the inner parts of the eye, as the retina and nerve, may cause eye pain and headache. Suggestive signs of these conditions are undue tortuosity of the retinal arteries, increased distinctness of the light streak, alterations in the course and caliber of the veins. Pathognomonic signs are beaded appearance of the retinal arteries, loss of translucency, white stripes of perivascularitis alternate dilatation and contraction of the veins, and indentation of the veins by the stiffened arteries. In arteriosclerosis the ophthalmologist can be of great service to the general practitioner by discovering these deep eye signs. In the nose, irregularities of the nasal septum and turbinates resulting in points of pressure and lesions of the sinuses are most likely to cause headache.—*Medical Record*, January 2, 1909.

The Prevention of Hemorrhage During Operations Upon the Nose and Throat.—Henry Hubbard Pelton, of New York, (*Medical Record*, December 20, 1908), has made use of calcium lactate, given for twenty-four hours before operations on the nose and throat, with the effect of lessening the hemorrhage from the tissues markedly. He gives an account of two cases. The dose for adults is twenty grains three times a day.

THE FOOD VALUE OF WINE.

BY PROF. E. H. TWIGHT,

Professor of Viticulture, University of California.

The American people are beginning at last to recognize and appreciate the value of wine as food and with food. The result is they are using wine more and more as it should be used, namely, at the table with the daily meals. This is the proper way and the proper time to drink wine. Drinking between meals is a bad American habit, which is responsible for a great deal of indigestion and intemperance. On the other hand, the fruit acids in wine when taken with more solid food, aid and promote digestion.

It is an interesting fact that the food value of wine was well known thousands of years ago. As far back as we have any record we find people using wines. Thus, in Old Testament days, the three great food staples were: Corn, Oil and Wine. Corn or maize furnished bread, oil the fatty substances, but wine as a beverage supplied those food elements not found in corn or oil.

With the progress of civilization the use of wine became more general and widespread. Among the Greeks and Romans wine was not regarded as a luxury, but as a necessity. This has continued down to the present time, so that to-day wine is a necessary part of the daily food of millions of people in Europe. In some districts wine takes the place of meat; in other districts it is used instead of tea and coffee, which, as we all know, have little or no food value.

Wine plays an important part as a temperance agent. The wine-drinking people of Europe are the most sober and temperate people in the world. All over France and Italy, where practically every man, woman and child drink more or less wine every day, the use of strong liquors, which are responsible for drunkenness, is very small. It is a good sign, therefore, to find Americans learning to use wine with their meals, and this habit will make for temperance in this country just as it does in Europe.

Although the food value of wine has been known for centuries, it is only of late years that the subject has been studied and investigated in a scientific way or manner. Curiously enough, the feeding of animals or stock was at first given more attention than the feeding of men.

THE TERM "FOOD" DEFINED.

We all know, or think we know, what food is, and what the word "food" means. However, it may be asked, What is Food? As most of us understand it, food is any substance which, taken into the body, is capable of sustaining or nourishing, or which aids in sustaining or nourishing the living body. The three classes of foods are: Gaseous, such as the air we breathe; (2). Liquid, such as water or wine, and (3). Solid, such as flour.

A more technical or scientific definition of Food is the one given by M. Hedon, as follows: "Food is any or all substances capable of contributing to the formation or repair of the organism or to the production of energy without exercising a nocive or hurtful action."

ALCOHOL IN WINE A TRUE FOOD.

Professor Rubner, of Munich, established by researches, which are now classic, that the origin of animal heat, so long considered as a vital property, results exclusively from the combustion of constituents of food. Thus it has been proved that milk, fatty matters, and even starchy material, such as potatoes, have a higher nutritive coefficient than meat, whose power of energy has greatly been exaggerated. Chauveau and Grandeau showed the importance of sugar in feeding.

Two American scientists, Professors Atwater and Benedict, determined the physiologic action of alcohol in its relation to the production of energy. The rigorously exact methods of these scientists make their results absolutely reliable. They established this great truth: That the potential energy of alcohol is transformed in the body into energy as completely as other food. The amounts of alcohol used daily in their experiments were about 75 grammes; that is, about the quantity contained in a bottle of wine. This amount was taken diluted at different times through the day. The alcohol was burned in the system as other carbohydrates, giving water and carbonic acid gas. Thus it was proved to work as a true food.

We must take under consideration the question of dilution of alcohol. Whereas it is without question that the 100 ccs. of alcohol, corresponding to a bottle of claret, and equivalent to half a pint of brandy, are beneficial when taken in the diluted form of wine through the day; there is no doubt that a half pint of brandy or whisky taken undiluted would cause serious trouble of the organism. Absorbed in the proportion of one gramme

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per kilogramme of body weight, alcohol in the form of wine is a food just as sugar or starch is a food.

WINE GOOD FOR WORKMEN.

In the grape and wine districts of Europe the workmen find in the wine they drink the source of energy that they would not get from their other food. The use of wine is also indispensable among workmen who labor in factories or where the heat is intense, as it is in the blast furnace, or in glass factories. Under such conditions wine is more readily assimilated than would be the more complex foods that would replace it.

The great German chemist, Baron Von Liebig, many years ago found that alcohol in small quantities was a food similar to sugar, and was burned in the system. He wrote: "It is rare that a well-fed man should turn to alcohol, but when the lack of work, or the small pay causes a workingman to be underfed, a craving for alcoholic drink is the result."

Liebig made another very interesting statement, as follows: "Since the establishing of prohibitionist societies, many English families decided to stop the supply of beer that was given to the

house servants, allowing them an increase in pay corresponding to the economy in house expense. It was soon found, however, that the food bills increased largely, so that the 'beer money' was paid twice—once to the servants, and once in food."

WINE AS FOOD FOR ANIMALS.

In the *Revue Generale des Sciences* for 1903, MM. Rose and Hedon called attention to the experiments of a veterinarian, M. Crouzel, who wrote an article on the value of wine as a cattle food. He advocated the use of spoiled wine as part of the ration for farm animals. He advised giving horses wine instead of oats, a working horse to receive about a gallon of wine a day. This was done at a time when there seemed to be a large excess of wine on the market. One quart of wine and one pound of bran were fed at a meal instead of oats, and the horses kept up their work without any loss in weight or appearance. It has been also shown that dogs that receive wine as part of their food fatten quicker than those that do not. A difference as high as 15 per cent. was found in favor of the animals receiving wine.

WINE AS A TONIC OR MEDICINE.

Professor Duclaux, the successor of Pasteur and head of the great Pasteur Laboratory at Paris, asserts, as the result of his investigations, that wine is not only valuable through the alcohol it contains, but also on account of the other elements, such as glycerine, lecithin, tartaric acid, and other fixed and volatile acids which are valuable foods.

At a Congress of the Association for the Advancement of Science held at Montauban, France, a few years ago, Dr. Mauriac presented an elaborate paper on the value of wine from a medical point of view. He concluded by saying: "Just as we have Hydrotherapy or treatment of certain disease by water, so we have Winotherapy or the treatment of certain disease by wine."


THE VALUE OF WINE IN DISEASE.

It is not generally known that wine is a wonderful antiseptic. On this point we would refer to the experiments in 1893 of Dr. Pick of the Institute of Hygiene in Vienna, of Gruber and Rabor, of the Sanitary Office, in Berlin, and more recently by Tavernari, of the Institute of Hygiene of Modena, Italy, in 1900.

Professor Pick showed that pure wine will kill the bacteria of cholera in five minutes, and that water containing these bacteria can be drunk safely if it was left five minutes in contact

with one-third its volume of wine. The antiseptic action of wine has also been found to apply to the typhoid bacteria. In the *Annales de l'Institut Pasteur*, Sabazes and Mercadier established the following facts: Ordinary claret will kill the typhus bacteria in two hours when the wine is undiluted, and in four hours when diluted. A white wine will kill these bacteria in twenty minutes, and champagne in ten minutes. In other words, if casks or bottles had been washed with water that was contaminated, after being filled with wine for a few hours the germs would be killed. It is important to note diluting the wine does not destroy its antiseptic value. Mixing water that was contaminated with wine a few hours before drinking would purify it by destroying the disease germs that might be present. The value of wine during epidemics of cholera or typhus has been shown by the fact that those who used wine escaped, while the water drinkers were stricken with disease.

The effect of alcoholism on tuberculosis, and also the kind of alcoholism, are the subject of a recent report made by Dr. Grenier de Gardenal. This report, based on the examination of 200 cases of tuberculosis, showed that 57.5 per cent. of the patients were alcoholics, but only 7, or 3.5 per cent., had used wine as an intoxicant. The others became alcoholics by using absinthe or strong liquors.



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THE FOOD ELEMENTS IN WINE.

Wine is the fermented juice of the grape, one of Nature's finest fruits. The analysis of grape juice by two eminent chemists, Messrs. Henry and Chevallier, showed the close comparison between its constituents and those of woman's milk. Thus, they found the following elements in one hundred parts of each :

Grape juice, 78 to 85 of water; 12.20 of sugar, etc.; 1.9 of mineral substances, and 1.7 of albuminous or nitrogenous matters.

Human milk, 85 to 87 of water; 11.0 of sugar, etc.; 0.4. of mineral substances, and 1.05 of albuminous or nitrogenous matters.

The principal difference between the unfermented grape juice and wine is that the grape sugar during fermentation is changed into alcohol and carbonic acid. Give a bottle of wine to a chemist to analyze, and what will he find? He will find in 100 parts of wine 85 to 87 of water; 10 to 11 of alcohol; 1.50 of mineral salts; 0.75 of free and other acids, and .05 of oils or starchy substances.

Thus all of the constituents of wine have a food value. The water is a food element, and so is the alcohol. The fruit acids, such as tartaric, pectic, succinic and tannic, not only promote the flow of saliva and the gastric juices, but also aid in converting into sugar the starchy matters of the food, while the salts in wine go to nourish the bones and tendons of the body.

In the matter of eating and drinking the American people have much to learn. Almost every physician will tell you that more people suffer from overeating than from overdrinking. Let Americans once get in the habit of drinking our good, pure American wines at the table with their meals and they would soon become a most temperate people. We should always use wine with food, and in the same way as food, that is, temperately. In vine-growing countries of Europe, where millions of people—men, women and children—drink wine every day of their lives, no one thinks of drinking too much wine, any more than Americans would think of drinking too much coffee simply because there is plenty of it.

The true temperance advocate, as well as the physiologist, therefore favors the proper use of light wine at the table and in the family. The more our people drink wine the better it will be for their health and temperance. The advice of the Apostle Paul to Timothy is just as good to day as it was nineteen hundred years ago: "Use a little wine for thy stomach's sake and thine often infirmities."

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AN ADDRESS.*

BY B. H. DETWILER, M. D.,
WILLIAMSPORT, PA.

MR. PRESIDENT, LADIES AND GENTLEMEN:—I have the honor of addressing to-day the youngest and most virile subsidiary organization in the Medical Society of the State of Pennsylvania. Standing, as I do, at the threshold of my second half century of medical practice, I will no doubt be pardoned for looking over the field in a retrospective manner, pointing out the milestones which indicate the triumphal march of medical progress, and even peering into the future, if perchance, seer-like, I may foretell what it holds in store for us. It was my good fortune to attend one of the first meetings of the Montgomery County Medical Society, at Norristown, in 1848, under the presidency of Dr. Hiram Corson. He was one of the great men in the profession, and "there were giants in those

Delivered before the Sullivan County Medical Society, at Dushore, Pa., Jan. 15, 1909.

days," who were not afraid to follow their convictions. An epidemic of scarlet fever induced him to cool his patients with water as he would a brick. His recoveries were prompt and free from sequelæ. This treatment was with the unexpressed approval of his medical contrerres, and the positive disapproval of the community. His success disarmed adverse criticism. About this time an epidemic of measles held me. I recall the hot drinks, the upper and lower feather beds and closed doors. My cries for water were not heeded until the doctor said, "Dr. Corson used cold water." A partial glass of water, with a live coal in it, was nectar; when no cessation of eruption was noticed, prepared water was given. My boyhood friend, Deisher, of Reading, under similar conditions of temperature, and in the absence of the nurse, drank a pitcher of cold water, and under the feather beds made a prompt recovery. In especially retarded eruptive fevers the teas were not always vegetable; animal dejections were used.

About that time the State Medical Society was organized, and shortly afterwards the American Medical Association incorporated by the profession, and if used as a legislative force at the present time would far outrank the Grangers.

The progress of medicine was slow for 1,700 years. Bright minds grasped facts, but in a disconnected way. Plato assigns the mind to the brain, but Aristotle, 355 years before the birth of Christ, discredits this theory, stating that the brain was the refrigerator of the heart. The Hebrews located the soul in the heart, also stating that the heart is desperately wicked. St. Paul speaks of the "bowels of mercy." Lord Bacon declares that the arteries are filled with spirits, and Harvey, in his discovery of the circulation, did not dispel these vagaries of Lord Bacon and his associates. Ehrenberg, in 1833, discovered the nerve cells in the spinal cord, and shortly after Schiediet and Schwan, through the use of the microscope, proved that all vegetable and animal tissues are made up of cells and products of cells.

In 1853-4, Professor Leidy, of the University of Pennsylvania, Philadelphia, filled the Chair of Anatomy, so long honored by the world-famed anatomist, Dr. Horner, who, while an interne at the Anatomical School in London, was not kindly received by the English students, who exclaimed: A rustic colonist to teach us anatomy! An accident, a shoulder dislocation, was brought into the class-room and the clinic. Dr. Horner recognized his opportunity; he had made the contractures of the muscles of the shoulder a study. The attendant fixed the shoulder blade, and by position relaxed the tense muscles; the arm glided into the socket, and the doctor's position as a lecturer was assured with cheers. Dr. Leidy followed this man. His knowledge of the microscope and his lectures, illustrated by sections, filled the class-room. In time every student was required to be a microscopist. It was reported, preceding his appointment as a lecturer, that he lived in the anatomical rooms, and subsisted on milk and crackers. The only specifics then extant were mercury for syphilis, quinine for malaria, and bleeding for everything.

To this statement I must make but one exception, and to locate this we must step just beyond the portals of the last century, when we find the immortal Jenner, then an obscure country practitioner, bravely fighting his way, in the face of bitter opposition from the profession and the laity, to plant the banner of immunity against one of the greatest scourges of humanity upon a pinnacle from which it can never be removed. And this brings us to the most unique, the most fascinating, and, at the same time, the most promising field of medicine, serum therapy. Notwithstanding the brilliancy of Jenner's discovery of the efficacy of vaccination against small-pox, this prolific field lay unexplored for nearly three-quarters of a century, until Louis Pasteur startled the world by the introduction of his anti-rabietic serum, thus reducing the mortality from this disease from almost 100 per cent. to sixty-one hundredths (.61) of one per cent. Following closely in the wake of Pasteur's discovery, we find Koch busy with his micro-

scope and settling for all time the etiology of tuberculosis, by identifying the tubercle bacillus.

Turning our attention to the discovery of the tubercle bacillus by Koch, and the application of his remedy, tuberculin, we are confronted by a diversity of opinion concerning its administration and the results to be expected. Upon this point almost all the profession will agree, that during the early years of its use a vast amount of harm was done through the administration of excessively large doses. Some years ago, while I was Chairman of the Executive Committee of the Williamsport Hospital, Dr. H. C. McCormick, with the approval of the Board, expended hundreds of dollars to demonstrate the fact that the reaction of tuberculin was too severe, and results were negative. Since we have a more intimate knowledge of the reactive fever and the proper dose of tuberculin, Dr. McCormick states that his results are satisfactory. My personal experience with serum therapy has been confined to the treatment of diphtheria, tetanus and tuberculosis.

One brilliant result following the use of anti-tetanic serum occurred in my practice two years ago. Infection took place through a punctured wound of the foot. The lower jaw was rigid; opisthotonos marked. Injections of anti-tetanic serum (Mulford) 3,000 c.c. were given every three hours with chloroform inhalations, and $\frac{1}{4}$ gr. codine to control spasm and free drainage of the wound, restored the lad to health and usefulness.

As to the successful treatment of tuberculosis, I am constrained to think that its history still remains to be written, and when a specific has been found that will successfully combat the ravages of the great white plague it will be found within the field of serum therapy. I do not wish to belittle the grand work which is being done at the present time, having for its object the saving of an army of 200,000 human beings yearly in the United States alone. But has not specific medication been too nearly ignored in this disease during the past two years?

Open air, forced feeding and rest form the triumvirate of potential agencies upon which the profession is chiefly

depending at the present time for relief from this scourge, which selects for its victim every seventh person in our country. The overworked West is enjoying a respite, the spectre-faced army of health-seekers has halted in its march towards the setting sun, and is assured that here at home, among their friends and surrounded by those comforts which mean so much to the invalid, they may be nursed back to health. The pendulum has swung, and having swung, are we to learn, within the next decade, that in the treatment of tuberculosis, as in many other social problems, one extreme is destined to follow upon the heels of another? Let us neither under-estimate nor over-value the virtues of pure air, sunshine, nutritious food and rest.

These measures are only the necessary and elementary conditions of hygienic living, indispensable for well and sick alike. They are not remedies in any true sense, and urging them with clamor and insistence is a virtual admission that the best that medical science can do to-day for a tuberculous patient is to place him in as favorable a situation as possible for his single-handed and unequal struggle with his formidable disease, and then leave him to his fate. It is true that a certain number of these patients recover, at least temporarily, but the issue in every instance depends in the last analysis upon the combative power of the individual patient.

Are we the victims of a delusion when we say that we are waging a successful fight against tuberculosis at the present time? Statistics show that modern sanitation, hygienic measures and education of the people is decreasing the death rate from all other infectious diseases much more rapidly than that of tuberculosis. A recent report from the Superintendent of Health of Pittsburg shows that the mortality from all infectious diseases, except tuberculosis, to be decreased, while the latter is increased. Dr. Dixon reminds us that two-fifths of the cases of tuberculosis in our State occur in the country districts, showing that fresh air and the simple life are not the leading factors in the great problem.

Here's another startling statement of fact: In the East Side, New York, is the most over-crowded district in the world. To say nothing of the total absence of everything which makes for sanitary and hygienic conditions, we find that tuberculosis prevails to a less extent, according to the relative population, than in any other portion of the city. What is the explanation to this condition? What is there to offset the uncleanly personal habits of the Hebrew element, of which this district is almost exclusively composed? The impure air in which they live is vitiated to the last degree by being breathed over and over again, at the same time that it is super-saturated with noxious gases, born of putrefaction.

These poor people are all overworked, most of them in "sweat shops." From childhood on, through interminable hours of toil they labor, we may say without a ray of light or hope, and yet amongst them the death rate from tuberculosis is surprisingly low.

The first exception among the etiological factors is the character of the food consumed by them. Almost without exception, the orthodox Jew, however poor, strictly obeys the Mosaic law as to food and drink. Much of the meat which is rejected by their religious officials is subsequently sold to Christians, who eat it without a thought of its effect upon their health.

The second exception applies to the use of alcohol. The Jewish people have no drink problem; they use stimulants, but in moderation, almost never to such an extent as in any way to interfere with health.

The third exception is that the Jewish race, during its forty centuries of existence, has undoubtedly acquired a marked degree of immunity towards tuberculosis.

In the light of these observations, we are confronted by the fact that, however distasteful and at variance with our present day ideas upon the subject, *but in defiance of them.*

Becoming familiar with these facts, some of which have been waiting through many generations for intelligent interpretation, is it remarkable that we long for a therapeutic

tical agent which will confer prompt and lasting immunity from the scourge of tuberculosis?

In my judgment, immunity must be the battle cry if we are to be truly successful in our treatment of tuberculosis. This was foretold by Dr. Dixon twenty years ago.

Tuberculous infection takes place in the human subject only when the normal ratio of resistance is lacking, or has been disturbed.

Such disturbance can be brought about but in one way, viz., by impairing the power of the defensive blood cell, the phagocyte.

Successful treatment of tuberculosis must have for its ultimate object the reinvigoration of the phagocyte.

Having the cardinal facts in mind, my attention was attracted, within the past two years, to the work accomplished by two American physicians, Dr. Edw. T. Smith and Dr. Gilliford B. Sweeny, of Pittsburg, Pa. Being inspired by the brilliant work of Von Behring, who not only succeeded in rendering young cattle immune to tuberculosis, but also in carrying this immunity to other cattle, these men addressed themselves to the task of isolating the active antitoxic agent which conferred immunity upon the cattle thus treated. This was found to reside chiefly in the lymphatic system of the immunized animal. The lymphocytes being the active agents in which it was stored, and through which, when necessary, it was transmitted to remote parts of the organism.

This same antitoxic power was found to reside in the blood serum, although to a much less degree. In fact, after careful experimentation, it was proven that the antitoxic power possessed by the contents of the therapeutic duct and other lymphatic glands varied but little, while that of the blood serum was by no means constant, being especially deficient in antitoxic power after the animal had been subjected to great exertion.

This observation was all the more significant, as it coincided with the previous discovery of Metchnikoff, who found that the chief defensive power with the body belongs to the lymphocyte, and its more highly organized con-

genera, the leucocyte and the phagocyte. The similarity in the organism of the bovine and of the human families, the ease with which tuberculosis may be transmitted from the milk cattle to the human race, a fact at first denied by Koch, but now fully established, and at least tacitly admitted even by the great German scientist himself. These, and other discoveries within the realm of serum therapy, led these physicians to undertake the preparation of an active, potent, antitoxic extract, which, being obtained from the immunized bovine, might be successfully administered to the human subject already infected with tuberculosis.

Omitting endless details incident to their efforts to isolate the antitoxic agent, Drs. Smith and Sweeny were finally successful, and a number of well marked cases of tuberculosis were cured. At this stage of their work the preparation of their antitoxic lymph was difficult, and required extreme care in its administration and preservation. However, these unpleasant features have been eliminated completely, and the lymph, as prepared by the National Laboratories at the present time, will keep almost indefinitely when not exposed to unreasonable extremes of heat or cold. Where the atmospheric temperature falls below 40 degrees Fahr., moderate heat should be applied, and when it rises above 90 degrees, care should be taken to keep the lymph near running water, or in a compartment of a refrigerator, which will keep it comparatively cool without freezing.

My first experience with anti-tuberculous lymph may be described as follows: Miss Marion M., aged 18 years, silk worker. For about a year had been losing in weight and strength. July 1st patient came under my care. There was moderate cough, with expectoration. Dr. H. H. Ritter made examination of sputum, and found tubercle bacilli.

I had the patient enter the State Dispensary for Tuberculosis July 1st, and placed her upon treatment, using anti-tuberculous lymph in 10 minim doses twice daily. Also full dietary of milk and eggs. Effects were prompt and more than satisfactory. I append the dispensary report.

This young woman's family history was decidedly bad. One sister had died, aged 21 years, of tuberculosis. Her mother died when 49 years of age of the same disease, terminating fatally in six weeks. This patient's entire left lung was involved in the tuberculous process. Marked hepatization without cavity.

At the end of two months' treatment the patient was presented before the Lycoming County Medical Society, and a committee appointed to examine her. An examination of sputum showed no tubercle bacilli. The committee reported that they found absolutely no subjective or objective symptoms of tuberculosis. Also reported the case to Dr. Dixon, of the State Board of Health, with records from the dispensary. She was then sent to a farm-house at Ellenton, on the railroad from Ralston and Towanda. She worked most of the time in a lumber camp for \$1.50 per week and board. She is now at her home and perfectly well.

My friend and neighbor, Dr. W. F. Kunkle, of Williamsport, has kindly furnished me with the following report: Mrs. H., aged —. Diagnosis of tuberculosis had been made three months before lymph treatment was begun. From history of case, patient had not been well for several years. Cough developed in July, 1908, and hoarseness a little later. At the time that lymph treatment was begun the cough was very persistent, and not controllable by any drug. Sleep was broken and unrefreshing. There was no appetite; in fact, a repugnance for food of all kinds. Microscopical examination of sputum showed an average of four bacilli to the field. Evening temperature, 101½ degrees; pulse, 112. Morning temperature, 90 4-5 degrees; pulse, 120. Pulse had always been more rapid in the morning than in the evening.

I began by using anti-tuberculous lymph in 10 minim doses, twice daily. No drugs were administered. A good nutritious dietary was laid down, and followed with no disturbance of digestion.

Dr. Kunkle appends a daily clinical report, which may be summarized as follows: Treatment was begun October

8, 1908. Patient's weight was then 100 pounds. There was a gradual lowering of temperature until November 30th, when it became normal, and has remained so ever since. During the two months of treatment the patient gained ten pounds in weight. Sleep is normal and refreshing. Appetite is much improved, though slightly capricious at times. Menstruation, which had been practically suppressed during illness, has been fully established. Bodily strength improves daily. I regard the patient as being in the best of health at the present time.

I am indebted to Dr. Wm. E. Closser, of Williamsport, for the following report of a case still under treatment. In regard to the case of tuberculosis I am treating with Dr. Sweeny's lymph, would say that the report would of necessity be incomplete at this time, as the case is still under treatment.

The case of Lena A., aged 23, saleslady, came to me for treatment October 20, 1908, with what I supposed was a bad cold, complicated by lagrippe. She had a bad cough, and her temperature ran as high as 104 degrees. I suspected there might be some tuberculous complications, which was confirmed by examining the sputum later. I put her on the usual plan of treatment I have been using for the past six years, viz., hypernutrition and stimulation, and after talking with Dr. Detweiler, was persuaded to use the Smith-Sweeny lymph. The temperature gradually subsided, and reached normal in about ten days from time treatment was begun, with a slight evening rise of from one to one and a half degrees. I gave her one bottle of the lymph, and then stopped the injections for one week. During this time the patient became worse, she began to cough more, and her temperature began to go up to 101 degrees in the evening. I then began the use of hypodermic lymph, and to-day she is feeling considerably better. She still has an area of dullness over the anterior portion of the left lung, and has a slight evening rise of temperature. She is taking, in connection with the hypodermics, 10 minims of carbonate of creosote, four times daily, and a 1-20th gr. of strychnine, four times daily. I am watching

this case with a great deal of interest, and will report the final results later on.

Case reported by Dr. Runyon, of Canonsburg, Pa.: Patient a young lady, 19 years of age. She first came under my observation February 1, 1908. At that time she was suffering from a severe cold, which assumed a grip-like form, and persisted until about the 10th of March, at which time she complained of pain in the left lung. She had at that time a moderately severe cough. Microscopic examination revealed a few tubercle bacilli in sputum. Patient complained of extreme weakness. Considerable emaciation was present.

On April 15th I called Dr. Donohue, of Washington, Pa., in consultation, and the case was pronounced one of tuberculosis. We placed her on the usual remedies administered in the incipient stages of this disease, which was continued until October 16th, during which time the patient steadily lost in strength and flesh, and finally became bedfast.

At that time her temperature was $101\frac{1}{2}$ degrees in the morning, and about $103\frac{1}{2}$ degrees in the evening. A dry, hacking cough, with pulse rate of 104 to 115. She had no appetite for any kind of food; milk and eggs being particularly distasteful to her.

At that time she was placed upon anti-tuberculosis lymph, all other medicine being withdrawn. The temperature was gradually lowered until at the expiration of three weeks it became and remained normal. Her cough was materially moistened, although still more or less annoying. The pulse rate had dropped to an average of 85 to 90. She began to gain in weight, and, at the same time, strength, the same continuing without interruption up to the present time. She has gained ten pounds in weight, being a small person, and never having weighed more than 100 pounds. She is able to go about her usual duties without fatigue, and is constantly gaining in strength. Aside from some annoyance from cough and a slightly rapid pulse rate, the patient is in perfect health.

Dr. Sweeney's monograph, *Animal Therapy, its Relation*

to Immunity in the Treatment of Tuberculosis, gives a plain statement of the method of preparation, and the results which he has obtained through the use of anti-tuberculosis lymph, and is worthy of careful perusal. The doctor makes no spectacular claims for the remedy. On the contrary, he deplores the fact that it has been eulogized too highly by physicians possessed of more enthusiasm than judgment. At the same time his clinical reports show the excellent results that he and other conservative physicians are obtaining through the use of anti-tuberculous lymph, and convinces the reader that he speaks "as one having authority."

In the light of my own experience with the remedy, supplemented by reports of many other physicians who have used it, I am constrained to believe that anti-tuberculosis lymph may be ranked with diphtheria antitoxin as an immunizing agent, and that another milestone has been erected to mark the triumphal march of medical progress.

In closing, let me briefly refer to some homely facts which, because of their common-placeness, are apt to be overlooked.

In our quest for the absolute, as medical men, are we not apt to overlook the cardinal points in this tremendous problem which confronts us, the conservation of the health of our race? I deplore the fact that it remained for the laity to put the stamp of everlasting disapproval upon the abuse of alcohol, as manifested by the tidal wave of sentiment against the liquor traffic which has recently swept over our country from the Gulf to the Great Lakes, and which has entrenched itself in the heart of the people. When we consider how many steady drinkers become, sooner or later, tuberculous, I sometimes wonder whether the W. C. T. U. has not done more to stamp out this disease than the medical profession has accomplished in the same direction.

Our government has done much to place pure food in the homes of the most humble, but is that food being kept free from contamination after it has entered the home, and is it properly prepared for the table?

In this connection the question of milk supply demands our attention, and is one which is by no means easily disposed of. The ever-present commercial factor constantly confronts us, and often ultimately defeats our most earnest efforts. Our veterinarians are constantly pointing out the frightful prevalence of tuberculosis in our dairy herds, 15 per cent. of milk cows being tuberculous, but we physicians are feeding our patients upon this same infected milk. Even worse than this, we are infecting our non-tuberculous patients, particularly young children and babies in this way. Yet it is not for us to become discouraged, or to allow our zeal to abate because of our failure to realize promptly all that we hope for.

In the world encircling movement, which has had for its object the amelioration of human suffering, we see the beginning of a new era, which is destined to accomplish more for the uplifting of humanity than all the fleets and armaments of the world. In the East the light is breaking and we already feel ourselves in the presence of a new day.

ACUTE TRUMATIC TETANUS TREATED BY MAGNESIUM SULPHATE.

WITH REPORT OF A CASE IN THE TREATMENT OF WHICH IN-
JECTIONS OF AN AQUEOUS 25 PER CENT. SOLUTION OF
MAGNESIUM SULPHATE WERE MADE IN THE SPINAL
SUBARACHNOID SPACE, WITH RECOVERY.

BY AMIE PAUL HEINECK, M. D.,

CHICAGO, ILLS.,

*Professor of Surgery, Reliance Medical College; Adjunct Professor of Surgery
University of Illinois; Surgeon to the Cook County Hospital.*

OUR knowledge concerning this acute infectious disease is incomplete. Numerous are the features of this intoxication that call for elucidation. We know that the disease occurs sporadically, endemically (1) and epidemically; that there is no age, sex or race that is immune. It has occurred in Iceland. It is very prevalent in the

tropics. In reference to race incidence, it must be stated that it is considered by most observers to be more frequent in the dark-skinned races than in the white race, even in the same country. The disease has a variable period of incubation; on an average, in the acute form, from five to ten days elapse between inoculation and the appearance of the symptom-complex of this condition. A short period of incubation implies intensity and virulency of infection, and is of bad prognostic omen. Though it is not believed that one attack confers immunity against other attacks, cases of second attacks are not known.

Though this disease is comparatively rare, it occurs in such unforeseen (8) conditions, and usually has such a dramatic outbreak and such a fatal termination that it is of interest to all medical practitioners. It has complicated burns (2). It has complicated frost bites. It has complicated horse bites. It has followed such insignificant trauma as is associated with the hypodermic injections of quinine (3); with the subcutaneous administration of anti-plague serum (4); with the application, for hemostatic purposes, of gelatine to bleeding surfaces, with the subcutaneous employment, for hemostatic or other purposes, of this same agent (5); with the operation of vaccination (6), of circumcision, of the removal of adenoids. It has followed the employment, in operative procedures, of contaminated catgut, it has followed contused wounds of the outer canthus of the eye (9), and other wounds so insignificant that at the time of infection they passed unnoticed, or if noticed they were completely forgotten at the time of the outbreak of the disease. The disease may occur after childbirth, and may occur after abortion, accidental or induced (10). As a result of Fourth of July injuries in 1903 there were 406 deaths from tetanus as compared with 60 from other sources (1).

Since the discovery by Nicolaier, in 1885, of the bacillus tetani, and its growth, in pure cultures, by Kitasato, in 1889, it has been amply demonstrated that all clinical forms of tetanus—cephalic tetanus (12), tetanus neonatorum (13), puerperal tetanus (14), post-operative

tetanus (15), traumatic tetanus—are due to the bacillus tetani. The inoculation of the offending germ occurs through an abrasion or through a wound of a cutaneous or a mucous surface. Tetanus is an implantation infection. In the lower animals all experimental efforts to produce the disease, through either the respiratory or the alimentary tracts, have proved unsuccessful. In man, as far as we know, the same condition obtains. No case is on record of the disease occurring in man as a result of infection taking place by inhalation or ingestion of the tetanus bacilli. The bacillus, though not a pyogenic germ, is not hindered in its development by the presence of the germs of suppuration. The latter, in fact, create conditions favorable for its growth (16). As a wound complication, the frequency of tetanus has markedly lessened since the generalization of the antiseptic treatment of wounds.

The disease has no characteristic pathological anatomical changes (that is, none have to this date been determined, or rather demonstrated). No constant changes have been found either in the peripheral nerves or in the cerebro-spinal nervous system.

The diagnosis offers no difficulties. In all but the chronic cephalic forms of the disease, (the chronic cephalic form excepted), the mortality is appalling. In an editorial in the *Journal of the American Medical Association* (16a) it is stated that "the usual rate of mortality for traumatic tetanus is probably about 80 per cent." Stewart (17) says that "the mortality is greatest in the puerperal type, extremely few cases recovering. It is said that recovery is almost unknown in tetanus after abortion." This high mortality is due to the fact that the measures actually employed in the treatment of this disease are ineffective. It is notorious that the drug treatment of this disease has been without efficacy. Many are the medicinal agents that have been employed in the treatment of tetanus. The indication for their employment has been found chiefly in the controlling or depressing influence which they exert upon the muscular action. Opium

(18), carbolic acid (19), phyostigmine (20), the bromides and chloral hydrate (21), can be mentioned among the drugs that have been, and still are, employed extensively in the treatment of this disease. These drugs meet, more or less successfully, isolated symptoms of this disease. Recoveries from tetanus infection are reported in which the medical attendants attribute the happy termination of the disease to the employment of one or more of the aforementioned drugs. Apparently, none of these drugs exercise much influence upon the course of severe cases. Very mild cases recover with, perhaps despite, any of the various forms of treatment.

For prophylactic and for curative purposes, anti-tetanic serum is widely employed. Different routes are employed to introduce the liquid serum into the human organism. The injections of the serum may be subcutaneous, intramuscular (21a), intravenous (22), intraneural (23), intracerebral (24 and 30a), Girard, or intraspinal (25). In the intraspinal method some clinicians introduce the anti-tetanine in the spinal space (26); the majority, however, make the injection in the spinal subarachnoid space. In all wounds of a suspicious nature, such as those in which there is much contusion of tissue, such as are soiled with street dirt or garden earth, in all gunshot wounds, in wounds occurring in individuals who work around horses, in horse-shoeing establishments, or in stables, it is the practice of most surgeons to inject for prophylactic purposes, in the wounded individual, from 2,000 to 3,000 units of anti-tetanic serum. The sooner after the injury the serum is injected, the greater is its protective power; the greater is its prophylactic potency. For the last ten years, in all individuals having wounds of the nature described above, I have injected for prophylactic purposes invariably anti-tetanic serum. I have never seen a case of tetanus occur after attempted immunization. It must be stated, however, that lately the immunizing properties of anti-tetanic serum have been disputed. Some cases of tetanus have been reported which show that anti-tetanic serum is not invariably successful in preventing the out-

break of the disease. Jacobson and Pease (21a) were able to collect six cases occurring in the United States and Canada in which, despite the previous prophylactic use of anti-tetanic serum, tetanus developed. In all but one of these cases recovery ensued.

Reynier (27) was able to collect from the literature thirty-one other cases of tetanus that had developed subsequently to attempted immunization by prophylactic injections of anti-tetanic serum. To these he added one personal case. In this series, though the anti-tetanic serum did not prevent the disease, it apparently, in most of the cases, attenuated the symptoms, and positively lessened the mortality rate. In the lower animals, the immunizing properties of anti-tetanic serum have been repeatedly demonstrated. In laboratory experiments, the serum being usually injected either simultaneously with, or immediately after, the injection of the toxin, neutralization is easily effected, and tetanus does not develop. Owing to the employment, as a preventive of tetanus, of anti-tetanic serum by veterinarians, this disease as a wound complication after castration of horses has almost completely disappeared. In the human subject, the immunizing properties of anti-tetanic serum are not as universally acknowledged.

As in immunizing doses, anti-tetanic serum is perfectly innocuous, we urge, until more light be thrown on the subject, that it be employed as a prophylactic agent against tetanus. Schwartz (30a) in 300 injections noticed no other accident but an occasional erythema (5 cases). In the opinion of many clinicians its value as a preventive of the disease is established (30). Delbet, Demoulin (27), and Kummer (28), and innumerable other observers have never seen tetanus develop in a patient to whom, shortly after the infliction of his injury, an immunizing dose of anti-tetanic serum had been administered. It must be stated, however, that the value of anti-tetanic serum, as a prophylactic agent, is based on belief, on clinical observation, and not on scientifically demonstrated facts. In the Paris hospitals (27) prophylactic injections of anti-tetanic serum

were not employed between the years of 1886-1890 inclusive. During this period there were in the city of Paris 135 deaths from tetanus. During the years 1901-1905, inclusive, the prophylactic injections were employed in nearly all, if not all, the Parisian hospitals. The serum during this same period was also extensively employed as a curative agent. During the years 1901-1905, inclusive, there occurred in Paris 133 deaths from tetanus.

In the prophylactic treatment of tetanus, in addition to the administration of anti-tetanic serum, all suspicious (suspicious from the standpoint of tetanus development) wounds should be subjected to vigorous and thorough antiseptic treatment. Lowering of vitality by bruising, and incorporation of foreign material, favor but are not essential for the development of tetanus. Like all sporulated microbes, the bacillus of Nicolaier offers great resistance to the action of antiseptics.

The following table is taken from the article by Scherck (29). It constitutes quite a forcible plea for the prophylactic employment of anti-tetanic serum.

Cases of Fourth of July injuries treated in the city dispensaries of St. Louis:

Year.	No. Case.	Antitetanic Serum.	Death from Tetanus.
1903	56	no	16
1904	37	yes	none
1905	84	yes	none
1906	170	yes	none

In the treatment of numerous cases of tetanus occurring in the human subject, anti-tetanic serum has been employed. In many cases thus treated recovery ensued. It is conceded, however, that in the great majority of cases in which this agent has been used, whatever may have been the route of introduction of the serum into the human system, the results have been disappointing. The cases have terminated fatally, not on account of the administration of anti-tetanic serum, but because of the inefficiency of the latter as a curative agent for tetanus. So extremely unsatisfactory have been the results attending

its use that, though still extensively employed, it is regarded as inefficacious by all, being employed for want of a better agent. The serum exerts but little influence on the course of the malady, and despite its use, the large majority of cases result in death.

Jacobson and Pease (21a) say: "It is apparent that after tetanus is fully established, serum therapy, however administered, promises but little as a curative agent."

In a discussion before the *Societe de Chirurgie de Paris* (27), in which most of those present participated, the opinion was general that, as a curative agent for tetanus, anti-tetanic serum in the human subject is of doubtful efficiency. Calmette himself expresses the opinion that anti-tetanic serum has no curative power, but that in chronic tetanus it markedly shortens the duration of the illness. The report of a case in which a comparatively new mode of treatment has been employed with success, finds its justification in the fact that in the present state of our knowledge all forms of treatment in this disease are extremely unsatisfactory.

Mr. Otto Copeck, 17 years of age, Bohemian by birth, was admitted to the West Side Hospital on October 22, 1908. Eight days previous to admission he had stepped upon an old, rusty horseshoe nail, thereby sustaining a punctured wound of the left foot. Though no attempt at disinfection had been made, this punctured wound, about an inch in depth, had by the time of admission healed by first intention. Two days before admission patient suffered from general malaise. On October 21st neck began to feel stiff and sore, and patient began to experience some difficulty in opening his mouth. On the morning of October 22nd Dr. Vasumpaur was called, examined the patient, and made a diagnosis of acute traumatic tetanus. He gave a subcutaneous injection of 2,500 units of anti-tetanic serum, and ordered that an ambulance be called, and that the patient be conveyed to the hospital and placed under my care.

When I first saw the case the manifestations of the disease were so classical that the diagnosis of tetanus was

self-evident. There were present trismus, retraction of the head, marked rigidity of the cervical, thoracic and abdominal muscles, opisthotonus, etc. The angles of the mouth were drawn outward and downward, the upper lip firmly pressed against the teeth, producing the facial expression which is almost invariably present in this disease. The voice was feeble. Slight disturbance of the patient, as by loud talking, opening and closure of the door, etc., would excite convulsive seizures of about ten seconds duration. The patient remained in the hospital twenty-eight days. The period of convalescence began on the tenth day after admission to the hospital, and was uneventful. His treatment after the first ten days consisted merely of careful nursing. During the first eight days of the active stage of the disease patient suffered from retention of the urine. The application of fomentations to the hypogastrium having failed to relieve the condition, he was catheterized three times daily from October 22d to November 2nd. No vesical disturbance resulted. During this same period patient was obstinately constipated. Cathartics per mouth and rectal enemata being without influence, resort was had to the subcutaneous administration of physostigmine salicylate in doses of gr. 1-100, and relief was thereby obtained. In the acute stage of the disease two such doses were taken. In the first few days attempts to give enemata would provoke convulsive seizures.

From October 22nd to November 2nd, inclusive, patient's diet was wholly liquid. On the evening of November 6th he was started on semi-solid food. On the 19th of November he was discharged. During the active stage of his illness our patient received, to combat insomnia, an occasional dose of morphine. On admission into the hospital 4,500 units of anti-tetanic serum were injected in the spinal subarachnoid space, 1,500 units subcutaneously around the left sciatic nerve, just beneath the gluteal fold, 1,500 units in the region of the anterior crural nerve, about an inch below Poupart's ligament. On October 23d 7,500 units of serum were injected subcutaneously. On October 24th 6,000 units were introduced in the spinal

subarachnoid space. On October 25th 6,000 units were injected in the subarachnoid space, 1,500 units in the left foot, in the region of the wound of inoculation, and the same amount around the left sciatic nerve. On October 26th 6,000 units were injected in the subarachnoid space, and 1,500 units subcutaneously around the left sciatic nerve. On October 28th 4,500 units were given subarachnoidally, 1,500 units in the left sciatic nerve, and 1,500 units in the left foot. On October 30th again 6,000 units were injected into the spinal subarachnoid space, and 3,000 units subcutaneously.

All the injections in the subarachnoid space were made either through the interspace between the spinous processes of the third and fourth lumbar vertebrae, or through that between the fourth and fifth lumbar vertebrae. For these injections, as well as for those of the aqueous solution of magnesium sulphate, anesthesia was not used. Anesthesia is not necessary. General anesthesia is decidedly harmful in these cases. It has determined deaths. Five injections, each of 5 c.c., of an aqueous 25 per cent. solution of magnesium sulphate, were introduced into the spinal subarachnoid space. The path of injection was the interspace between the spinous processes of the fourth and fifth lumbar vertebrae. The needle was inserted about 2 c.m. to the side of the median line, on a level with an imaginary line extending between the highest point of each iliac crest. None of the solution was injected until a few drops of clear non-bloodstained cerebro-spinal fluid had escaped.

The magnesium sulphate injections were made on the 23rd, 25th, 26th, 28th and 30th of October. Each injection was followed by marked lessening of muscular rigidity and noticeable improvement in the patient's general condition. Upon reappearance of the symptoms to an extreme degree the injections would be repeated. After the first injection the rigidity of the lower limbs never returned to any but a slight degree. I cannot but be of the opinion that the magnesium sulphate was a contributory factor to the patient's recovery.

<i>Name</i> —MR. COPECK.		<i>Disease</i> —CASE OF TETANUS.		
Day of Disease.	Day of Month.	Pulse.	Respiration.	Temperature.
8	Oct. 22	108	13	100
9	23	109	19	99½
10	24	105	19	104½
11	25	90	22	101 3-5
12	26	100	20	103½
13	27	118	24	103½
14	28	120	20	105 1-5
15	29	120	24	102 3-5
16	30	110	20	100 3-5 105
17	31	98	25	102
18	Nov. 1	90	20	101
19	2	88	20	100
20	3	88	20	99 3-5
21	4	90	20	101
22	5	82	20	101

Previous to our employment of magnesium sulphate it had been used by other clinicians. Their cases follow. In some of these cases death occurred; in others recovery followed. The cases as yet are too few in number for any definite opinion to be expressed as to its value. A more exact dosage must be determined. Greater proficiency in administering must be obtained. The results, however, have been sufficiently encouraging to warrant, in fact, to demand further study of the subject. The experimental work on this subject has been done chiefly, almost wholly, by Meltzer and Auer (31). They determined that intraspinal injections of magnesium salts are capable of abolishing completely in monkeys, at least temporarily, both tonic and clonic contractions. Clinically, experience seems to partially bear out the further statement of these investigators that intraspinal injections of magnesium sulphate in doses which do not affect the respiratory center or other vital functions are capable of abolishing completely all clonic convulsions and tonic contractions in cases of tetanus occurring in the human subject. The relaxing effects of the injections may last twenty-four hours or longer. In the case which I report none of the vital functions were influenced by the intraspinal injections of magnesium sul-

phate. In some parts of the body, such as in the lower extremities, the muscular relaxation following upon the injections was complete. In other portions, such as the mandibular, facial or cervical muscles, the rigidity was very much lessened, but it was not completely overcome. Was it due to insufficient dosage? I am unable to state.

Appended to the article is a temperature, pulse and respiratory chart, in the perusal of which it will be seen that the injections at times were followed by an elevation of temperature. This has been noted by other observers. In Miller's (33) case the injections determined a profuse secretion of mucus, bronchorrhea, at times severe enough to embarrass respiration, but easily controlled by atropine. Was there a relation of cause and effect between the injections and the elevation of temperature? This must also be decided by further study of the subject. Meltzer and Auer (32) have determined that when administered by the intravenous route the magnesium salts are very toxic, and that even small doses completely inhibit the respiration. Therefore, for the administration of these salts this route, the intravenous route, should never be employed. We employed the agent only in the shape of injections in the spinal subarachnoid space.

In all of the tabulated cases the magnesium sulphate was injected in the subarachnoid space. The solution has also been used subcutaneously in the following three cases:

Lyon (35) reports the following case: Male, 7 years, stepped on a nail which entered left foot after perforating the sole of his shoe. It barely penetrated the skin. Wound scarcely noticeable. Eight days later complained of stiffness of foot and leg. Convulsions on the ninth day. On the eleventh day the jaws were set, and almost all of his muscles were rigid. The wound was opened and treated with peroxide of hydrogen and tincture of iodine. Morphine, chloral and bromides partially controlled the convulsions. On the twelfth day 2 drachms of magnesium sulphate in 4 oz. of distilled water were injected under the skin of the abdomen. At the end of two hours jaws could be opened 2 c.m. Muscles were markedly relaxed. On the

13th, 14th, 17th and 19th days the magnesium sulphate injection was repeated. The convulsions had become infrequent and mild. Twice there was bronchorrhea. A vesicular eruption covering the whole body appeared on the 14th day. The vesicles were pin-head size and were filled with a clear fluid. In a week these dried up and disappeared with exfoliation of the epidermis. Digitalis necessary to improve heart action after first week. During the patient's convalescence tonics were given for the anemia. Able to sit up on the 30th day. Walked as usual in about ten days more.

Greeley (36) employed, with success, magnesium sulphate in aqueous solution in two cases of tetanus. As his mode of administration was the subcutaneous we will briefly mention and not discuss them. The first case occurred in a boy two years old. The child had stepped on an old garden rake, and lacerated the web between the great and the adjoining toe of the left foot. After an incubation period of ten days the symptoms appeared. Greeley administered 7,500 units of anti-tetanic serum. In addition, every two hours 5 grains each of chloral hydrate and of potassium bromide were administered. By hypodermoclysis one pint of distilled water containing 2 drachms of magnesium sulphate were introduced into the organism. This was repeated on the next day. Recovery followed.

Greeley's other case was one of chronic tetanus. Four weeks elapsed between the inoculation and the outbreak of the symptoms. By hypodermoclysis 3 drachms of magnesium sulphate dissolved in a pint of distilled water were introduced into the organism. Recovery ensued.

Wm. Hessert (34) a few weeks ago showed to the Chicago Medical Society a case of acute tetanus successfully treated with subarachoidean injections of an aqueous 25 per cent. solution of magnesium sulphate.

We cannot, and we are unwilling to, make any statement as to the value of magnesium sulphate as a therapeutic agent in the treatment of tetanus. The cases in which this agent has been used are, as yet, too few in number to allow the expression of an authoritative opinion.

Further laboratory experiments and numerous clinical reports are needed. The animal experiments conducted by Cruveilhier (37) are too few to be conclusive. His findings are contradicted by clinical observers. We would refer the reader to appended tables. The faith which Cruveilhier reposes in anti-tetanic serum as a curative agent is not warranted by the results that this agent has yielded.

We used magnesium sulphate, in the method stated above, in our case, and the results were so surprising and so satisfactory that we feel justified in urging its use in tetanus. It is important that the utility and the value of this drug as an agent to control the tonic and clonic muscular contractions so characteristic of this disease be exactly determined. Its value must be decided by the combined experience of clinicians the world over.

HEINECK: ACUTE TRAUMATIC TETANUS.

Cases of Tetanus in the treatment of which subarachnoid injections of an aqueous solution of magnesium sulphate have been employed.

1. Blake, Jos. A.—The use of magnesium sulphate in the production of anesthesia and in the treatment of tetanus. *Surgery, Gynecol., and Obst.*, Chicago, 1906, vol. ii, p. 541.

Sex, Age, Weight.—Male; 15 years; 115 pounds.

Period of Incubation; Previous Immunization; Nature of Wound.—7 days. None. Crushed first three fingers of left hand.

Other Treatment.—Antiseptic disinfection of wound. On 3d day of disease (tenth of injury) 40 c.c. of antitetanic serum injected in spinal cord between 4th and 5th cervical vertebræ. 20 c.c. injected in median cephalic vein. On night of same day 20 c.c. injected in median basilic vein. On 11th day after injury, 35 c.c. of antitetanine serum injected in spinal canal by lumbar puncture. Chloral hydrate and morphine given when patient not under the effect of magnesium sulphate.

Magnesium Sulphate Treatment.—On 12th day after injury intraspinal injection of 4.5 c.c. of magnesium sulphate (25 in 100 of water). 33 hours later repeated injection. 37½ hours later intraspinal injection 8 c.c. of a 12½ per cent. solution of magnesium sulphate. 27 hours later repeated above injection. Six days after repeated same injection.

Result.—Recovery.

Comments.—Injections have a marked effect in restraining the convulsions and relieving pain, thereby conserving strength and preventing excessive metabolism and heat production.

2. Markœ, F. H.—Reference same as case 1, p. 549.

Sex, Age, Weight.—Male ; 4 years ; 40 pounds.

Period of Incubation; Previous Immunization; Nature of Wound.—7 days. None. Sloughing wound of skin and subcutaneous tissue of the right leg.

Other Treatment.—Four injections each of five c.c. of anti-tetanine serum were injected into buttock, the external jugular vein, the spinal canal, and back respectively. Occasional doses of morphine and chloral.

Magnesium Sulphate Treatment.—1.5 c.c. of a 25 per cent. solution of magnesium sulphate were slowly injected into the subarachnoid space.

Result.—Died 28 hours after 1st symptom of disease appeared.

Comments.—Death cannot be attributed in the slightest degree to the magnesium sulphate. On autopsy cultures of tetanus bacillus were obtained from the wound, spleen, and heart blood, showing a marked tetanus bacteriæmia.

3. Logan, Samuel.—The treatment of tetanus by intraspinal injections of magnesium sulphate for the control of convulsions. Jour. A. M. A., 1906, vol. xlv, p. 1502.

Sex, Age, Weight.—Male ; 11 years ; 80 pounds.

Period of Incubation; Previous Immunization; Nature of Wound.—8 days. None. Gunshot wound of hand with old toy pistol loaded with blank cartridge.

Other Treatment.—Simple cleansing of wound after development of the disease. On day of admission 50 c.c. of antitetanic serum injected intraspinally. Chloral hydrate, gr. 15, sodium bromide, gr. 30, every 4 hours. On 3d day after admission 10 c.c. antitetanic serum injected in each brachial plexus, in each sciatic nerve, and into the tissues around wound, in all 50 c.c.

Magnesium Sulphate Treatment.—On 3d day after admission general anæsthesia. 4 c.c. of a 25 per cent. solution of magnesium sulphate injected in spinal canal by lumbar puncture. On 4th day again gave patient genl. anæsthesia and inject. in subarachnoid space by lum. punct. 50 minims of 25 per cent. sol. magnesium sulphate.

Result.—Death 40 hours and 50 min. after 1st inj. of mgs. sulphate. Heart failed before respirations affected.

Comments.—Temp. post-mortem 108. 2F. per rectum. Complete cessation of muscular convulsions following introd. of magnesium sulphate.

4. Logan, Samuel.—Reference same as above.

Sex, Age, Weight.—Female ; 24 years.

Period of Incubation; Previous Immunization; Nature of Wound.—17 days. None. Vaccination.

Other Treatment.—100 c.c. of antitetanic serum injected subcutaneously. 30 hours after appearance of first symptom ; wide

excision of vaccination wound, and dusting of surface with dried antitetanine serum.

Magnesium Sulphate Treatment.—30 hours after first symptoms were noticed 4 c.c. of a sterile 25 per cent. solution of magnesium sulphate were injected into spinal subarachnoid space by lumbar puncture. Local anæsthetic employed. 17½ hours later injection was repeated.

Result.—Death 50 hours after appearance of first symptoms.

Comments.—No good resulted from the use of the magnesium sulphate solution. Patient was moribund when second injection of mag. sulph. was made.

5. Franke, Margan.—Ein Fall von tetanus behandelt mit intra duralem injectionen von magnesium sulphuricum. Zentral. fuer Innere Medizin, 1907, vol. xxviii, p. 344.

Sex, Age, Weight.—Male; 32 years.

Period of Incubation; Previous Immunization; Nature of Wound.—12 days. None. Wound of the middle finger.

Other Treatment.—Energetic antiseptic handling of wound is recommended by this author. Amputation of finger. Chloral hydrate, gr. 30 per rectum daily.

Magnesium Sulphate Treatment.—19 days after infliction of injury, intradural injection of 1 c.c. of sterilized 25 per cent. solution of magnesium sulphate. 5 days after above intradural injection of 2 c.c. of same solution. 4 days later repeated same injection. Injecting needle broke in tissues. Removed by operation.

Result.—Recovery.

Comments.—Franke noticed after each injection of mag. sulphate that there was a lessening of contracture, also noticed that the injections exerted a beneficial action on the muscular convulsions. Sleep was better. Nourishment possible.

6. Robinson, G. Canby.—Treatment of tetanus by intraspinal injections of magnesium sulphate. Jour. Am. Med. Assn., 1907, vol. xlix, p. 493.

Sex, Age, Weight.—Male; 11 years; 67½ pounds.

Period of Incubation; Previous Immunization; Nature of Wound.—Contusion of scalp. None. Played considerably around stable.

Other Treatment.—Excised supposed wound of entrance. Chloral hydrate, gr. 30, sodium bromide, gr. 60, every 24 hours for the first two weeks.

Magnesium Sulphate Treatment.—On the 11th day of the disease patient was anesthetized. Ethyl chloride used as a general anæsthetic. 3 c.c. of a 25 per cent. solution of magnesium sulphate injected in subarachnoid space. On the next day repeated injection using 3½ c.c. On 15th day of disease injection in same locality 4 c.c. of same solution.

Result.—Recovery.

Comments.—Author states that the intraspinal injections of mag. sulphate produced marked lessening of the very severe symptoms for a number of hours. The muscular rigidity was never so severe after each injection as it had been before.

7. Meltzer, S. J. and Auer, Jno.—*The Journal of Experimental Medicine*, 1906, vol. vii, p. 705.

Sex, Age, Weight.—Male; 35 years.

Period of Incubation; Previous Immunization; Nature of Wound.—4 days. Insignificant wound of foot which healed rapidly.

Other Treatment.—Large doses of antitetanine serum and sedatives gave no relief. 2 hours before death, an intravenous injection of antitoxine serum was given.

Magnesium Sulphate Treatment.—One intraspinal injection of magnesium sulphate 1 c.c. to every 18 lbs. of body weight.

Result.—Death 5 hours after injection of mag. sulph. solution in subarachnoid space.

Comments.—Anæsthetizing and relaxing effect complete. Respiration good to end.

8. Miller, Robert T.—Treatment of tetanus with subarachnoid injections of magnesium sulphate. *The Am. Jour. of the Med. Sciences*, 1908, vol. cxxxvi, p. 781.

Sex, Age, Weight.—Male; 7 years; 60 pounds.

Period of Incubation; Previous Immunization; Nature of Wound.—7 days. None. Lacerated wound of left hand.

Other Treatment.—Antitoxin daily for 14 doses varying from 1,500 to 7,000 units. Sedatives for a short time. Copious saline enemata and infusion.

Magnesium Sulphate Treatment.—11 lumbar punctures made within 13 days. Approximately 2.5 c.c. of a 25 per cent. solution of magnesium sulphate being injected into the meninges at each puncture.

Result.—Recovery.

Comments.—“Of the value of the treatment by magnesium sulphate, no one who witnessed this case has any doubt.” The muscular paralysis following each injection lasted from 18 to 29 hours. It involved all muscles, except those of head, neck and diaphragm. The injections were followed several times by respiratory collapse lasting 11 to 14 hours and the pulse dropped, though not to a dangerous degree.

9. Henry, Jno. Norman.—*International Clinics*, 1908, Series 18, vol. lv, p. 1.

CASE I.—*Sex, Age, Weight.*—Male; 9 years.

Period of Incubation; Previous Immunization; Nature of Wound.—6 weeks. None. Abrasion of skin of back by kick of horse.

Magnesium Sulphate Treatment.—Lumbar puncture 3 c.c. of 25 per cent. solution of mag. sulph. injected in subarachnoid space. 5 days later subarachnoid injection repeated.

Result.—Recovery.

Comments.—The case was a severe one. Made an excellent recovery. Each injection was followed by a relaxation of the rigidity.

CASE II.—*Sex, Age, Weight.*—Male; 19 years; 123½ lbs.

Period of Incubation; Previous Immunization; Nature of Wound.—7 days. None. Stepped on a nail. At time of admission, the wound was healed.

Other Treatment.—Wound of foot excised.

Magnesium Sulphate Treatment.—Lumbar puncture 6 c.c. of sterile solution of mag. sulph. injected into spinal canal. Ethyl chloride used as anæsthetic.

Result.—Death. Admitted July 30th, died Aug. 2d.

Comments.—One hour after injection patient was entirely relaxed. A rise of temperature followed the intraspinal injection.

CASE III.—*Sex, Age, Weight.*—Male; Colored; 9 years; 55 pounds.

Period of Incubation; Previous Immunization; Nature of Wound.—6 days. None. Stepped on nails with both feet and inflicted punctured wounds.

Magnesium Sulphate Treatment.—Lumbar puncture, 4 c.c. of clear spinal fluid withdrawn. 2½ c.c. of 25 per cent. sol. mag. sulph. injected into spinal canal. Two days later repeated injection, only gave 2 c.c. at second injection.

Result.—Death.

Comments.—A rise of temperature followed each injection.

CASE IV.—*Sex, Age, Weight.*—Male; 45 years.

Period of Incubation; Previous Immunization; Nature of Wound.—3 weeks. None. Stepped on nail.

Other Treatment.—On same day as second subarachnoid injection, 18 c.c. of antitetanus serum were given subcutaneously. On the morrow, 30 c.c. of antitetanic serum were injected into the left buttock.

Magnesium Sulphate Treatment.—6 c.c. of 25 per cent. solution of magnesium sulphate injected into subarachnoid space by lumbar puncture. 3 days after above, performed lumbar puncture, removed 35 c.c. of clear spinal fluid, and injected 6 c.c. of sol. of mag. sulph.

Result.—Death on evening of second day following second injection.

Comments.—“It is very much a question whether the mag. sulph. did not contribute to the patient's death.”

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REPORT OF PROGRESS OF THE JEFFERSON
COUNTY MEDICAL LIBRARY DURING
THE YEAR 1908.

LIBRARY COMMITTEE OF JEFFERSON COUNTY
MEDICAL SOCIETY.

MR. PRESIDENT AND FELLOW-MEMBERS:—For the sake of history we may be pardoned for referring to the steps in the development of the Library. The Library was the outcome of a conversation which the speaker (August Schachner) had with Donald MacPherson, deceased, and Professor R. T. Halleck, Trustee of the Louisville Free Public Library, in the latter part of the year 1904. At this time I desired to establish, through the Louisville Free Public Library, merely a department of current medical literature. Soon after my first efforts I was fortunate in securing the assistance of Dr. James B. Bullitt, who rendered some invaluable services in the early development of the Library. Dr. Bullitt introduced the motion for the formation of a Library Committee, asking that the speaker be made its chairman. The committee originally consisted of Drs. Bullitt, Pfingst and Schachner. After Dr. Bullitt's departure from the city, the vacancy was filled by Dr. T. H. Baker, who likewise did valuable work on the committee.

After a trying existence on paper for about two years, the Library went into actual existence October 1, 1907. To those interested in the early part of the movement we would refer to the *Kentucky Medical Journal*, April, 1906, page 789, and *The American Practitioner and News*, February, 1908, page 55.

To-day, after an actual existence of fifteen months, the Library has 3,042 bound volumes, 30 unbound volumes and 3 charts, making a total of 3,075 volumes, not including 775 duplicate volumes. In addition, there are on file 56 journals, representing the best current literature; 625 visits were recorded during the past 11 months, and 591 topics were looked up.

From this it is plain that the movement began inde-

pendent of this Society, then carried into this Society, and owing to the inability of this Society to provide sufficient funds, carried into the other societies. Because it was not confined to this Society it was given the name of the Jefferson County Medical Library instead of the Jefferson County Medical Society Library.

From these different societies were received representatives which constituted the present Board of Trustees. This Board consists of the following members:

August Seliachner, President; W. O. Roberts, Vice President; C. H. Harris, Adolph Pfingst, Jefferson County Medical Society. Vernon Robbins, Secretary and Treasurer, Society of Physicians and Surgeons; J. Rowan Morrison, Louisville Society of Medicine; Ewing Marshall, Clinical Society; Ben C. Frazier, Medical Chirurgical Society; Dunning S. Wilson, Academy of Medicine; Thomas L. Butler, Surgical Society.

In preparing this, like the preceding reports, the writer had in mind a double purpose: First, to make a report of the progress during the past year; and second, to make comments that were thought might infuse additional interest, as well as correct and explain erroneous and imperfectly understood views.

Speaking of the purposes of a Medical Library, we quote the following views of that eminent scholar, Dr. Abraham Jacobi:

"A large Library, besides being the proof of existing culture and accumulated intellectual labor, fulfills its destiny by giving information. Here the medical man with scanty means will find his text-books and monographs to aid him in unravelling the obscurities of a difficult case on hand. . . . But what a library is most successful in is the inculcation in a great many of the habits of study and research."

Certainly this is the prime reason, "the inculcation in a great many of the habits of study and research," and this while the men are young and have plenty of time. This is the reason why the better informed, the more public-spirited have recently awaked here and there to the

incalculable importance of the medical reference and circulating library.

Medical Libraries for the Smaller Centers, by Smith Baker, M. D., (*New York State Journal of Medicine*, July, 1908.)

In the minds of many there does not exist a clear distinction between a private and a public medical library. A private library frequently becomes burdened through books that are very seldom consulted, but books which, although having little or no value in a private library, would have a very different rating in a public library, because the same book that would be consulted perhaps once in one or more years in a private library would be consulted much more frequently if it were placed in a public library where it would be at the disposal of a great number of men. Therefore, every book has its value so far as public collection is concerned, and sometimes the oldest have the greatest value.

To those who are inclined to under-rate and consider as useless books that are no longer new, we would suggest that it is completeness that makes a library valuable. It is the number of such *so-called* useless books that gives to the British Museum its chief importance and lures scholars from the entire world.

I cannot refrain from again quoting an editorial bearing upon the development of the Medical Library:

The progress we have made within the past fifteen months is ample proof that if the hard efforts that have been made in the past will be continued in the future, we will soon have a library that will rank as one of the best in the entire Southwest.

"It only requires a word here and there to turn into it the library of a deceased physician, which would be dissipated and ultimately find its way to a junk shop. A little co-operation with neighboring library exchanges duplicates for things needed. The American Association of Medical Libraries conducts a clearing-house for just such purposes. Time is the all important factor in the growth of a library. A library which is kept sound is as sure to

grow as an oak sapling. It is hard to stop it. One of the greatest libraries in this country, that of the College of Physicians of Philadelphia, organized when Philadelphia was a village, can be pointed to as a product of time. For nearly two centuries medical books have gravitated to it until it is a veritable treasure house of medical literature. Time does it. The community which contemplates organizing a library is squandering its best capital in delay. A library in a small community to which everybody contributes \$2.00 a year is worth twice as much as one in which the sum total is contributed by one or few individuals. The medical journals which are received in exchange and the books which are sent by publishers for review by the medical journals published in this State should all be finding their way into the libraries for the benefit of the whole profession. *The New York State Journal of Medicine is carrying out this plan. For the past two years and a half every journal received in exchange, and every book sent to this journal for review, have been preserved in the County Society Library, where they may be of use to the whole profession. With their characteristic spirit of altruism, physicians have not retained the book for their own as the price for writing reviews.*—Editorial, *New York State Journal of Medicine*, July, 1908.

Time and co-operation will do the work. If we can receive the exchanges and the books sent to journals for review, together with the extra copies of works which medical teachers always receive, and the libraries of deceased medical men, the growth of the Library will be as rapid in the future as it has in the last fifteen months.

The importance of co-operation has been very clearly illustrated by the number of duplicates which this Library possesses, and this applies with especial force to smaller communities where five doctors have five sets of the same work instead of five doctors having five sets of different works, thereby increasing the scope of their library facilities, all of which can be accomplished by co-operation through a common center.

In judging a medical library, it is not uncommon to overlook the fact that a medical library is a technical library, and that the attendance of a technical library is quite different from that of a general public library. Visitors to a Free Public Library go more to be entertained and amused than to be enlightened, whereas in a technical library the reverse is the rule, and therefore it is plain that while the attendance of a free public library is a large one, the attendance of a technical library is always a small one. The one is important in proportion to its attendance, and the other is important according to its aim.

This brings us to another important part of a library, viz., its indexing. The indexing of the library bears the same relationship to the library as an index does to an individual work, and the value of any library, just like the value of any work, is very largely dependent upon the accuracy and completeness of the index. Therefore, the most important duty of a librarian is to be able to properly index the library in order that the treasures of the library can be unlocked with the slightest ease.

In this the library has been singularly fortunate in securing the services of Miss Mary Rademaker. In fact, I am compelled to say that, without such efficient services, our present results would have been impossible. Coming to us as she did with a general training in library work, she very generously utilized her vacation by going to the John Crerar Library, of Chicago, to secure special experience in order that her work here should be of the highest order.

In view of these facts, it is with the greatest reluctance that we consider the idea of losing her valuable services should the Jefferson County Medical Society assume the future responsibility of the library. We might also add at this point that it is the view of several, if not the majority of this Board, that the work of a librarian now and for some months to come, if properly performed, will be quite enough to keep a trained attendant occupied without the addition of other duties, and therefore these same members feel that to combine the duties of librarian and stenographer would not be consistent with the proper

performance of both duties. *You can no more do impossibilities here than elsewhere.*

It is also the opinion of the Board that although it would be best to continue as an independent body, the lack of funds makes it necessary for them to transfer the responsibility of the library to the Jefferson County Medical Society entirely.

In doing this we make the following recommendation:

First.—That the President of the Jefferson County Medical Society appoint a Library Committee to take the place of the present Board of Trustees. This committee to consist of four members, two to be appointed for a period of two years, and two to be appointed for a period of one year, and each succeeding year two members be appointed for a period of two years to take the place of the two members whose terms will have expired. In this way there will be two hold-overs, which will perpetuate the experience of the Board.

Second.—That the present librarian be continued until March 1, 1909, in order that the incoming librarian may be properly introduced to the duties of librarian.

Third.—That this report be given the widest publicity throughout the State journals.

Lastly.—It is difficult for me to find words emphatic enough to express my sense of gratitude for the outgoing Board, who have so patiently and conscientiously aided in every way in the upbuilding of the library.

The Board wishes to acknowledge, with thanks, subscriptions from the following:

Drs. Thomas L. Butler, J. Rowan Morrison, Vernon Robbins, Ap Morgan Vance, Ewing Marshall, W. Hamilton Long, I. N. Bloom, T. H. Baker, O. H. Dilly, J. A. Flexner, M. L. Ravitch, J. M. Ray, James Chenoweth, William Cheatham, Bernard Asman, M. K. Allen, H. M. Pusey, Herbert Bronner, John B. Richardson, Jr., Ben C. Frazier, Carl Weidner, August Schachner, J. B. Marvin, John Moran, John R. Wathen, S. G. Dabney, J. Hunter Peak, A. A. Falconer, Adolph Pfingst, G. A. Hendon, Oscar W. Doyle, W. F. Boggess, F. W. Koeler, John G. Cecil, Gaylord

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The James M. Holloway Memorial Library, The John A. Ouchterlony Memorial Library, J. Morrison Ray, Arthur McCormick, Bernard Asman, Charles G. Lucas, J. Letchworth Smith, John Moran, Ewing Marshall, New York Post Graduate School and Hospital, Charles H. May, American Association of Genito-Urinary Surgeons, Vernon Robbins, August Schachner, M. F. Coombs, J. Hunt. Stucky, Benjamin M. Ricketts, J. B. Marvin, George Robertson, E. O. Witherspoon, S. E. Woody, D. S. Willson, E. S. Allen, Henry E. Tuley, B. J. O'Connor.

OTHER IMPORTANT AIDS FROM:

Mr. Peter Lee Atherton, Home Telephone Company, Louisville Free Public Library, Dr. B. J. Lammers, Gen Alfred. C. Girard, of the John Crenar Library; Mr. John Brownne, of the New York Academy of Medicine; Mr. Wm. Yust, of Louisville Free Public Library.

AUGUST SCHACHNER,

President Board of Trustees, Jefferson County Medical Society.

Recent Progress in Medical Science.

IN CHARGE OF

W. O. ROBERTS, M. D.,

AND

A. D. WILLMOTH, M. D.,

GENERAL SURGERY.

Purulent Pleuritis.—F. T. Billings, Pittsburg, Pa. (*Journal A. M. A.*, January 23), says that from a bacteriologic standpoint, the conclusion of most observers appears to be that in purulent

pleuritis the pneumococcus is extremely frequent, occurring as a pure infection; that it is the common cause of metapneumonic effusions, and is usually the secondary infection in tuberculosis, and that the prognosis of pneumococcic empyema is entirely favorable. Streptococcus occurs more often than pneumococcus, and is a more serious infection. Tubercle bacilli have been found to be a less frequent cause of pus formation in the pleural cavity than of serofibrinous exudates. The finding of other organisms does not exclude the possible presence of tubercle bacilli or *vice versa*, especially the pneumococcus as an infecting factor, which may have died out.

Infection from staphylococcus is rather infrequent. Mixed infection occurs in from 10 to 20 per cent. of cases. Free opening and drainage of the pleural cavity might seem the most rational treatment, and in fact thoracotomy is generally advised when pus is diagnosed in the pleural sac. In old cases, however, adhesions have formed, binding down the lung, and its expansion is much to be desired. DeLorme and Ransohoff have shown how the atelectatic lung can be surgically restored, but Billings refers more at length to two methods recently described; the continuous suction method of Bryant, which, however, its author is "not disposed to emphasize in a great degree as a substitute for rib resection," and Murphy's method, consisting of aspiration followed by the injection from one to five ounces of a 2 per cent. solution of formalin in glycerin through the same canula without removing the instrument, the treatment to be repeated in ten days to two weeks if necessary. Theoretically, this method seems to be based on the fact that the injected solution will not wholly or partially sterilize the pus cavity, but will also stimulate more or less formed inflammatory products (adhesions, flocculi, thickened pleura, etc.) and lead to their gradual absorption. The hygroscopic action of the glycerin, the inflow of leucocytes from the irritation and the dilution of the contents of the cavity by serum would apparently be factors in the beneficial effect of this method.

Through the kindness of several of his colleagues Billings is able to report seven cases treated by this method, the patients ranging from three months to thirty years in age. Three died, a mortality of 42.8 per cent., but two were practically hopeless when treated. One was a boy, aged nine, with pronounced kidney lesion and general anascara; the infection was mixed streptococcus and pneumococcus. The other hopeless case was a

child three years old, with a cavity in right upper lobe posteriorly. Bacteriologic examination showed streptococci. The third fatal case was a child aged two, in whom, immediately after the glycerin formalin injection, there was marked reaction, extreme dyspnea, rapid and irregular pulse and cyanosis, and death followed in about an hour. Billings refers in this connection to Capps and Lewis' experiments on dogs, in which a similar result followed the injection of a few drops of formalin into the inflamed pleural cavity in a number of instances. He thinks that rib resection, so generally practiced nowadays, is uncalled for in some cases, and that surgeons will be more discriminating in the near future in this respect. Formerly many cases of empyema recovered with simple paracentesis. We know that pneumococcus infections within the pleural cavity are comparatively benign; therefore it is possible that a simple thoracocentesis, or at most a small incision and drainage for a few days may often suffice. Streptococcic and mixed infections will call for thoracotomy and drainage, and in uncomplicated tuberculous empyema, repeated aspirations at long intervals will probably be found to give the best result. Murphy's method, when its indications and contraindications are better known, will perhaps be of great value, especially in empyema of long standing, where the inflamed membranes are more fully protected, and the danger pointed out by Capps and Lewis is less probable. A careful and systematic bacteriology study of each case will go far to indicate the line of treatment.

Pulmonary Embolism Following Operation.—C. L. Gibson, New York, says that since 1899, at St. Luke's Hospital, there have been fifteen sudden deaths from pulmonary embolism. He describes five of these cases. After examining the causes alleged to bring about this condition he dismisses nearly all of them as untenable. There seem to be only three factors that stand out prominently. The age of the patients is usually above forty, when the vessels are beginning to lose their elasticity, which may allow of clot formation in the vessels. Vascular changes are believed to be a prominent factor in their causation. Practically all embolisms occur in operations done below the diaphragm. At present there is little justification for hastening the getting out of bed of patients after operation in order to lessen dangers of clotting in the veins and resulting embolism.—*Medical Record*, January 9, 1909.

THE
American Practitioner and News.
A MONTHLY JOURNAL OF
MEDICINE AND SURGERY.

FOUCHE WARREN SAMUEL, A. M., M. D., EDITOR IN CHIEF.
SAMUEL BROWN HAYS, M. D., MANAGING EDITOR.

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115 FULTON ST., NEW YORK.

TREATMENT FOR INFLUENZA.

It is well known among medical men that rest, simple rest in bed, will cure a great many cases of influenza. Symptomatic treatment, however, gives the best results. The pain should be relieved by an anodyne. Quinine should be administered all through the attack, as it has a stimulating effect and antipyretic action, and seems to destroy the bacillus. When the pain is severe, two antikamnia tablets every two or three hours will give much relief. To relieve the cough when it is accompanied with a great deal of pain, one antikamnia and codeine tablet every two or three hours dissolved on the tongue acts very promptly and successfully. That codeine had an especially beneficial effect in cases of cough, and that it was capable of controlling excessive conghing in various lung affections, was noted before its true physiological action was understood. Later it was clear that its power as a calmative was due, as Bartholow says, to its special action on the pneumogastric nerve. Codeine stands apart from the rest of its group in that it does not arrest secretion in the respiratory and intestinal tracts. In marked contrast is it in

this respect to morphine. Morphine dries the mucous membrane of the respiratory tract to such a degree that the condition is often made worse by its use, while its effect on the intestinal tract is to produce constipation. There are none of these disagreeable effects attending the use of Antiknamnia and Codeine Tablets.

CATAPLASM OF KAOLIN.

BY PAUL CALDWELL.

Probably no preparation of the pharmacopeia has received as much attention from pharmacists as the cataplasm of kaolin. As yet there seems to be no one who has been able to so manipulate the official formula for it as to produce a satisfactory product. I have before me extracts from papers on it, written by six different men eminent in pharmacy, and no two of them agree on a plan of procedure, and only one is of the opinion that the pharmacopeia is right.—*Abstracted from the Druggists' Circular.*

It is a matter of small amount whether or not pharmacists can make this preparation, as it is at best but a poor imitation of antiphlogistine, for which it is recommended as a substitute. Up to date no one has successfully imitated a \$20 gold piece, and the same may be said of antiphlogistine. As long as the Denver Chemical Manufacturing Company maintains the high standard it has set for its product, there will be little necessity for the druggist to worry over methods of manufacturing cataplasm of kaolin.—*Ed.*

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THE American Practitioner and News.

"NEC TENUI PENNÂ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else." —RUSKIN.

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Editors.

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BALDNESS.

BY M. L. RAVITCH, M. D.,
LOUISVILLE, KY.

THOUGH the God of Medicine, Aesculapius, and the Father of Medicine, Hippocrates, are represented as bald-headed individuals, though there is a mistaken notion among the laity that age necessarily denotes medical learning, and that lack of hair on the top of the head in a young man is a very good fortune to begin with, yet very few care to be bald-headed. I don't blame them for it, since, according to Leonard's, the Greek history tells us that the great tragedian, Aeschylus, who in 456 B. C., came to his end by the blundering of an eagle, which mistook the top of his bald head for a rock, and so dashed its prey, a turtle, upon it, in order to break its hard concealment, so that it could be eaten. It is needless to say what the result was to the man and the undoubted surprise to the eagle.

* Read before the Louisville Clinical Society, Dec 8, 1908.

According to Pincus, alopecia is due to two causes, hereditary and parasitic. Alopecia, in many cases, says Pincus, is hereditary, it being not uncommon to meet with families in which the fathers and sons for many generations lose their hair early in life. He even adds this is due to a marked stretched condition of the aponeurosis of the occipito-frontalis muscle, which becomes hereditary in certain families. If it be so, why don't the daughters get bald-headed as their brothers do? Such a hereditary explanation is simply foolish. Bad health will undoubtedly cause diseased hair, but bad health also affects other organs. Alopecia, as the result of bad health, is purely due to a nutritive trouble, the bulbs being badly nourished, the hair becoming loose and falls out. Neurotic troubles and nervous shocks are also liable to cause the loss of hair and even total alopecia. To my mind, Sabaurand's theory is the most plausible one. He maintains that the essential factor in all cases of baldness is his microbacillus of seborrhea. In my own experience over ninety per cent., at a rough estimate, are due to eczema seborrheicum of Unna or dermatitis seborrheicum of Crocker. Under this term is included the clinical condition we call pityriasis capitis, alopecia pityrodes, seborrhea sicca, going on to a distinct eczematous condition.

Elliott, of New York, expressed himself most concisely and pointedly on this subject in an article read before the American Dermatological Association in 1892, and published in the *New York Medical Journal*, February, 1893. Out of 234 cases of alopecia prematura 216, or 90 per cent., were due to purely local processes on the scalp, and all of these 216 presented the clinical appearances of eczema seborrheicum. He furthermore believes this to be an infectious inflammatory process. From all the inquiries made by me in regard to the cause of alopecia prematura, I can only see that it is an infectious process causing several clinical phenomena, which we include under the term eczema seborrheicum, or, better still, dermatitis seborrheicum. No matter how, whether the term is properly used or not, or what organism is the specific cause, whether

it be the morococcus of Unna or microbacillus of Sabau-rand, we know from the clinical and pathological appearance of the disease that it is an infectious disease.

Merrill's experiments coincide with those of Unna, he (Merrill) having isolated an organism answering to the description of the morococcus, and caused seborrhoic eezema from a pure culture. The parasite causes an irritation of the follicular wall followed by their hypertrophy. This hypertrophy closing the cavity of the follicle, causes a fibrous transformation of the follicle, and final falling out of the hair. Knowing that the majority of cases of baldness are caused by an organism, we can readily realize how dangerous a brush or comb would be when used by several members of a family, but how much more so when used on the many in a barber shop or hair dresser's establishment. To carry out this idea, culture tubes were inoculated with the debris from a barber's brush and comb, with the result that the usual organisms found in the scalp were alive in these articles. Often I have cured my cases of eezema seborrhoicum to have them relapse after a visit to the barber.

I would forgive a layman because he is ignorant of such facts, but I would hardly do so when a physician lets his barber treat his scalp. Shampooing is a catch with the barber. It is a panacea of all scalp diseases. The procedure itself is a barbarous one. The vilest soaps and scrubbing are used. Then they douche the customer's head through a quill in the cork of a bottle containing some compound of an oily, alcoholic nature scented with such a vile odor that for hours afterwards, when the man removes his hat in a public conveyance, or in the street, and finally returns to the bosom of his family, the whole world knows he has been shampooed, and upon rising the next morning he finds that he has made a mark on his pillow, if he did not make a mark in the world. If one attempts to escape from the infection of the pepper-sauce bottle he does not fare better, for the ordinary barber never has a choice oil or pomade. The women who go about cleansing hair have no more knowledge than the barber has of its

constitution and growth. They often bring a lotion with them of their own composition. He calls it a tonic, so does she her compound. Neither knows anything of its therapeutic value, yet they both assume each to be of talismanic virtue. It is generally nothing but alcohol, or some other oil, sometimes colored with cochineal or otherwise tinted.

It is a pity the laity and the medical profession at large have not given this subject the thought and care that it deserves; and while immense strides are being made in sanitation and prevention of disease in general, the prevention of infectious diseases of the skin and scalp has been woefully neglected. The only true aseptic barber shop was seen by me in London five years ago. It was kept by a German by the name of Stahl. There a comb and a brush were never used a second time until it had been thoroughly washed and sterilized. Baskets of freshly washed combs and brushes, looking at a little distance like a heap of freshly cut straw, were brought in at intervals throughout the day. The towels used were heated over horizontal cylinders of bright copper within reach of the barber. In such kind of barber shops you do not have any fear of infection. Right here, in Louisville, we have a few clean barber shops, and the barber shop in the Atherton Building is kept in a tolerable aseptic condition as far as towel and cleanliness is concerned. But the instruments are not sterilized after they are once used. It could be easily done if the barbers only had some patience. I always compel my barber to sterilize the clippers and scissors whenever I have him to cut my hair. I also make him use an antiseptic soap on my neck before he shaves it, thereby preventing the painful pimples, furuncles and carbuncles that often occur after a hair cut.

When asepsis at home barber shops and hair dressers establishments will be enforced, we will not see so many bald-heads as we do now. While our civilization compels us to be mindful of the use of cleanliness for the hair, we must not be oblivious of its demand for air and light. The hair, being a vital structure, needs, like the body elsewhere,

light, air and cleanliness. It especially needs attention to them in the midst of our artificial life and civilization; for in a state of nature the hair obtains the first two so plentifully that it can afford to dispense largely with the last.

DISCUSSION.

DR. E. S. ALLEN: This is a very interesting subject, and I have enjoyed Dr. Ravitch's paper very much indeed.

About a year ago I read an article by some investigator, in which he claimed that we are living in too low a latitude for our inherited lung capacity; that we do not use as much of our lung tissue as we should, and there was always a certain amount of residual air in our lungs which underwent decomposition and was absorbed, and a toxic product was the result of the decomposed air so absorbed which had a predilection for the hair follicles, causing them to undergo degenerative changes. He conducted a number of experiments with animals, causing some animal to breathe into an inverted jar, the air being allowed to remain in it for some time in a dark room until decomposition took place. He then evaporated the ethereal extract in it in some way and obtained a residue which he injected into monkeys, pigs and dogs, with the result that the hair fell out of the animals, and birds into which it was injected lost their feathers. He conducted a number of experiments to prove his theory. When the injection of this toxic product was discontinued there was a regrowth of the hair and feathers.

So, to my mind, it is possible that the fact that we do not use our entire lung capacity, and that we do have residual air, especially in the apices, have something to do with bald heads.

DR. J. A. FLEXNER: I think this is a very important subject, and the older I get the more important I consider it.

So far as the theory of hereditary baldness is concerned, I am inclined to agree with Lasor and other recent writers that heredity is neurasthenia, and, like malaria, is a term that is used simply to satisfy our patients or ourselves. My father was bald at twenty-two from an attack of yellow fever. I got to be nearly fifty before I was bald. I have a brother much younger than I am who was bald before he was thirty. In between there are various stages of baldness.

Metschikov has thrown a great deal of light on the subject of baldness, and the relation of change in the color of the hair

to arteriosclerosis. He has shown pretty plainly, in his "Studies on the Nature of Man," that gray hair and baldness are among the early phenomena connected with sclerotic changes in the smaller blood vessels. That barber shops and other public means of cleansing the scalp are neglected sources of infection in this country is undeniable. Almost all of the dermatologists whose works I have read insist upon the uncleanness of barber shops as the source of, not only baldness, but other types of infectious diseases.

I want to say that I go to the apices of the lung to ascertain the presence or absence of tuberculosis, but I have never heard of it being the cause of baldness. It is, of course, a fact that we do exhale some toxic substances, but how we can have decomposition of air, which is largely composed of nitrogen and oxygen, indecomposable products, is more than I can understand. It seems to me to be a far cry to attribute baldness to that source in view of the fact that baldness is as common as it is.

DR. IRWIN: I am sorry that I was not present when Dr. Ravitch read his paper, but I have some views with reference to baldness.

From what I have seen and read, and others have told me, I have come to the conclusion that baldness is perfectly incurable except in those cases of alopecia areata. One thing I have noticed in alopecia areata is that when the hair grows in those patches which have become bald, it is nearly always white, and it is some time before it changes to the color of the surrounding hair. I have never been able to understand why that hair should come in white.

So far as the cause of baldness is concerned, we find many things that destroy the hair bulbs, and when they are once destroyed all the methods known have never been able to replace them. We find it as a result of syphilis. In some of these cases, where the bulbs are not entirely gone, the hair will return, but they are very few. We often find baldness in persons who live in close compartments, which tends to destroy the vitality of the skin. Anything that interferes with the nervous system, whether it be impure atmosphere, sudden shock or syphilis, will tend to change the color of the hair and cause it to fall out. It is a well-known fact that hair will turn gray in a single night as the result of a sudden shock. I do not know why that is. When once the roots are destroyed there is no hope for its return.

DR. JNO. R. WATHEN: I would like to ask the essayist to

answer two questions in closing. One is, why is it that we have baldness in men so much more than in women, and is it a fact that bad sunburn, obtained, for instance, in sea bathing, will restore the hair?

DR. RAVITCH (*closing*): In regard to Dr. Allen's remarks, I know of the man who promulgated the theory he mentioned. His name is Alois Parker, of Detroit. All the lay papers published his articles. Parker's claim is based upon nothing at all. The injections he claimed to have made into animals, I believe, is nothing but thallin, which has been injected by him and a number of other dermatologists. The theory seems to me to be fallacious. Take Italian organ-grinders and fruit-venders, and you will find that two dozen of them sleep in one stuffy room, and you will be surprised to note the amount and the quality of the hair they have. I think Saubaurand's idea that about ninety per cent. of baldness is due to infection is the most plausible one.

Men have a greater predisposition to alopecia than women. I grant that we see alopecia in women, but it is rare, and is the result of infection.

In regard to Dr. Irwin's remarks, I did not touch upon alopecia areata at all. I think, however, that he is right in his view that neurotic alopecia is due to mal-nutrition. Any disease is liable to cause a shock to the hair. For instance, in typhoid we get symptoms of temporary deafness, and the toxin acts in the same way on the hair. When the toxin is eliminated it gets well again.

In regard to Dr. Wathen's question as to the effect of sunshine upon the hair, I would say it is very beneficial upon alopecia.

SOME REMARKS REGARDING THE DIAGNOSIS AND MANAGEMENT OF PULMONARY TUBERCULOSIS.

BY S. W. REMBERT, M. D.,
LOUISVILLE, KY.

I HAVE endeavored to take up this evening a running sketch of some of the chief points to be observed in the diagnosis and management of pulmonary tuberculosis, and shall try to make my remarks both practical and terse. While a far-advanced case of tuberculosis, present-

ing the usual lung condition and cardinal symptoms of this stage of the disease is more or less easy to diagnose, yet there are few diseases that so tax the diagnostic acumen of the physician as a truly incipient case of pulmonary tuberculosis. It is, therefore, the prompt recognition and proper appreciation of the earlier symptoms that enable the diagnosis to be made at the time at which the greatest good can be derived.

To take them in rotation:

1. *History*.—The family history, when carefully inquired into, will reveal facts of importance that will be helpful to further efforts.

The personal history of the patient will often show unusual opportunities for infection on account of occupation, "house-infection," or "contact-infection." There can often be elicited a history of the patient having had previously some of the following diseases or symptoms, viz.:

- (a). Repeated "colds" that are severe and prolonged.
- (b). Idiopathic attacks of "grippe."
- (c). Indefinite "malaria" that did not yield to quinine.
- (d). Enlargement of lymphatic glands which could not be traced to a local or definite general infection.
- (e). Fistula-in-ano. This occurs in a fair percentage of cases of pulmonary tuberculosis, and is often a forerunner of this disease. It should always be considered tuberculosis until proven to the contrary.
- (f). Broncho-pneumonia. It has been estimated that fully 70 per cent. of the cases of broncho-pneumonia in adults subsequently show evidences of pulmonary tuberculosis.
- (g). Pleurisy, dry or moist. This condition is regarded with equally as much importance as broncho-pneumonia. It is the consensus of opinion that non-traumatic pleurisies, whether dry or with effusion, are tuberculous unless otherwise proven.
- (h). Gastric derangements that do not yield to the usual methods of treatment.
- (i). Bone and skin diseases that were probably tuberculous, and which may have served as primary foci.

2. *Cough*.—This is usually an early symptom, though occasionally it is absent until a late stage of the disease. In some cases it is slight, with only an occasional "hack," while with others it is excessive, and outranks in importance with the patient all other symptoms.

3. *Expectoration*.—As a rule this symptom is present, however, with much greater frequency in the second and third stages than in the first stage, although it might be the first manifestation noted. It may be mucoid, mucopurulent, purulent, sanguino-purulent, or frothy without the appearance of containing pus cells. Tubercle bacilli may or may not be found, but the diagnosis should be corroborated by the presence of tubercle bacilli in the sputum, but not dependent upon a positive finding. It has been claimed that in a truly incipient case of pulmonary tuberculosis, tubercle bacilli are never found, and this stands to reason, as there are no bacilli to be found in the sputum until there has developed an ulcerative process, having already passed the first stage—infiltration—and ulceration is rarely to be found in a purely incipient lesion. However, repeated examinations of the sputum should be made to ascertain the presence of tubercle bacilli, for their presence assists not only the diagnosis but the prognosis as well.

4. *Fever*.—Practically every case will sooner or later show some fever. While it is infrequently observed in the very early stage of the average case, yet it is likely due to the fact that it is not always looked for. The rise in temperature may vary from a fractional part of one degree to several degrees. If a careful record of the temperature is had in all suspicious cases of this disease, securing a three-hour reading for several days, with and without exercise on the part of the patient, we will often find that the patient shows some febrile reaction. Markedly sub-normal morning temperature, reversed temperature, in which the highest temperature is shown during the morning hours, and continuous temperature, all have their place and importance, but they are usually coupled with

such other unmistakable symptoms as will have long since made the diagnosis certain.

5. *Hemoptysis*.—The absolute importance of this symptom should never be overlooked or attributed to the nose or throat or stomach without definite and positive findings that make such a conclusion certain. Blood-spitting, ranging from blood-tinged or blood-streaked sputum to a copious hemorrhage, should be regarded as an evidence of tuberculosis, and should be treated accordingly. In the vast majority of cases in which hemoptysis occurs, a careful examination of the chest will reveal a diseased condition of the lungs present, and if not found at the time, subsequent efforts in this direction will, in the greatest probability, show unmistakable evidences of tuberculosis. In hemoptysis tuberculosis requires to be excluded rather than proved.

6. *Night-Sweats*.—These occur more frequently in tuberculosis than in any other disease. This symptom might be one of the first noted, yet, as a rule, it is a late manifestation, and shows a condition of insufficient elimination.

7. Loss of weight, loss of strength, loss of appetite, frequent attacks of hoarseness, vague or indefinite attacks of pain in chest are all symptoms that should be carefully considered and watched, and no effort should be spared to locate the cause for such, and patients should not be dismissed, after a cursory examination, with the advice that a "tonic" is needed, or that gymnastics or other forms of strenuous exercise are advisable, until the examiner has fully satisfied himself as to the nature of the condition with which he is dealing.

EXAMINATION OF THE CHEST.

1. *Inspection*.—The patient's chest should always be stripped, with a loose shawl thrown about the shoulders. Examination should never be made through even a single article of clothing, however thin, for there will likely be foreign sound elicited which will prove misleading. The chest should be carefully observed in a well-lighted room,

and all irregularities or deformities should be noted. Movement of the chest on deep inspiration, deep expiration and quiet breathing should be watched to locate any impairment, if present, in chest action. The clavicles, supra-clavicular and intra-clavicular spaces, scapula, with spaces above and below, shape of axilla, should be closely noticed to locate any portrayal of disease.

2. *Palpation*.—As a rule, this does not yield much assistance in the detection of the disease in an early stage, for it requires rather a considerable area of involvement of lung tissue to be appreciated by palpation. However, it should always be carefully done, for it sometimes reveals facts of importance.

3. *Percussion*.—Percussion should be made thoroughly over the whole chest. Assistance can be derived in many early cases with apex lesions by mapping out the apical outlines by percussion. The two sides of the chest should constantly be compared, and a standard should be made of each chest rather than adhering to some mental impression as a standard to which all cases should measure. Percussing with the fingers rather than with instruments has an advantage, in that the resistance offered by the parts percussed is better appreciated. Percussion notes over the chest are often misleading, and the fact that no evidence of disease or any appreciable raise of pitch or dullness is found should not positively exclude the diagnosis of tuberculosis. Comparison of the apices should be made. The pitch of the right apex is normally somewhat higher than that of the left, and when they are equal it signifies disease in the left apex, or in both the right and left apices.

4. *Auscultation*.—This gives more information than any of the other parts of the chest examination routine. Attention should be paid to harsh, wavy or interrupted breathing, loss of vesicular murmur, rales, etc. Loss of vesicular murmur is important, and is by many observers believed to be a sign of beginning involvement in the area showing it. While percussion may give intimation of a cavity, yet it is by auscultation that we get the cardinal

points, such as cavernous breathing, post tussile succussion, etc. Significance should be paid to the size and extent of the rales, whether dry or moist, and if produced by ordinary breathing, by deep breathing, or only after or increases after a cough at the end of a forced expiration. Again, attention should be paid to ascertain whether fine, moist rales, if present, are constant or transitory. Consideration should also be paid to the time of the day at which the examination is made, for it is likely that the moisture in the chest will be greater early in the day. Also, there is somewhat more moisture to be observed during menstruation. The time of day at which a case with cavity is examined will sometimes serve to mislead as to this condition. Occasionally we will see some cases with a cavity that is unquestioned have the cavity filled with exudate, so that when examined early in the day, before the cavity has been emptied by expectoration, fail to show any evidence of its presence, while, after it will have been emptied of its contents, it will be easily detected.

MANAGEMENT.

The cardinal points, e. g., rest, fresh air in abundance, generous feeding and cheerful mental attitude are adhered to with the majority of cases. The chief symptoms are treated as follows, viz.:

1. *Cough*.—The vast majority of cases of tuberculosis with cough possess a cough out of proportion to the lung involvement. Patients are instructed to refrain from coughing as much as possible, and to cough only when it is necessary to do so to raise sputum. That it is largely psychical is evidenced by the rapid lessening in the cough of the average patient that takes sanatorium treatment, even before they will have taken the treatment sufficiently long to have derived enough benefit to make any difference in their lung condition. Where the cough is harrassing and exhausting, and medicinal aid is advisable, codein in small amounts, heroin and terpin hydrate are the principal remedies used.

2. *Pleuritic Pains*.—The application of tinct. iodine

over the affected area, strapping the chest with adhesive strips, use of the "Prisnitz Bandage," and cupping, are the chief methods used for the relief of this symptom, but these are in no way specific in their action, and frequently all of these are resorted to in turn before the pain is allayed, if then. As a rule, most of the attacks are of short duration, and other than the inconvenience and discomfort imposed upon the patient do not affect the progress of the disease to any appreciable extent.

3. *Hæmoptysis*.—The patient is kept absolutely quiet in bed. Amyl nitrite, nitroglycerin and sodium nitrite are given for the purpose of causing peripheral dilatation, thereby lowering the intra-arterial tension, thus favoring the formation of a clot at the site of the bleeding. The blood pressure is kept within safe bounds by the administration of sodium nitrite, by mouth or by needle, and tr. aconite by mouth. Calcium lactate is given in frequent doses to increase coagulation. Only cool and liquid diet is given. Egg-albumin and vegetable acids are not used, as they lessen the clotting power of the blood. Morphia is given in very small dosage where necessary to allay the fears and excitement of the patient. The bowel movements are restricted for several days if necessary, and bowel movement, when necessary, is induced by natural desire or by the injection of olive oil or glycerine, the patient using the bed-pan and *not* straining.

4. *Night-Sweats*.—This condition is believed by many to be due to an insufficient elimination of the poisons resulting from the disease process, and occurs chiefly when the patient is constipated. While many remedies have been suggested by different authorities, yet probably the best results are to be obtained from the use of magnesium sulphate, given in doses of 20 to 30 grs., every one, two or three hours, until two or three satisfactory bowel movements are obtained daily.

5. *Fever and Rapid Pulse*.—The best antipyretic and pulse lowerer in this disease is *absolute rest in bed*. Patients having a daily rise in temperature to 99.5° F. and a pulse rate of 100 or over per minute, under conditions

of ordinary rest, are kept in bed. While such patients might feel quite equal to remain up and come to meals, yet the best way in which to restrain activity in the disease process is by carefully noting slight rises in temperature and pulse-rate, and keep the patient in bed until the temperature and pulse-rate will have returned to the normal and remained so for several days. It is remarkable to observe the fall in temperature and pulse rate with no other remedy than rest in bed.

6 *Loss of Weight.*—The patients are administered a generous and well-selected diet, supplemented with milk and eggs when their condition of weight and strength would warrant the forced feeding. The digestion of the average case of tuberculosis is good, and care should be taken to see that their meals are well selected, so that they will not tire of any particular articles of food. Rest in bed is a good appetizer, and is one of the best means of combatting persistent attacks of indigestion sometimes observed.

7. *Loss of Strength.*—With increased nutrition and lessening in the activity of the disease the strength usually returns and increases satisfactorily. Exercise is granted only upon prescription, beginning with very small amounts, and increasing gradually as the condition of the patient will justify. The temperature, pulse, weight and appetite of the patient granted exercise are regularly observed, and any untoward symptom arising will call for a diminution or curtailment of the exercise allowance. The aim with tuberculous patients is to get them back to as close an approach to the normal as is possible, but the greatest care must be observed to see that the exercise permitted is not excessive, thereby doing harm and retarding the improvement desired.

8. *Loss of Appetite and Gastric Derangements.*—These conditions usually disappear with rest, life in the open air and judicious feeding. It is sometimes advisable to administer bitters to stimulate the appetite, and digestants are sometimes required.

9. *Constipation and Diarrhea.*—They are both treated with small doses of magnesium sulphate, and, where the diarrhea is sufficiently excessive to warrant it, a small amount of tinct. opium may be given. The Bismuth salts are sometimes of service in diarrhea.

The use of some of the forms of tuberculin, therapeutically, sometimes appears to assist in the improvement of some cases so treated, and would also appear to lessen the likelihood of a return of the disease, but the greatest care should be used in its administration, and the patients kept constantly under observation.

The aid of tuberculin in clearing up the diagnosis is often of the greatest value. The form in which it is most accurate is the subcutaneous method, but such careful technic is required to properly make the dilutions that it is not sufficiently safe to be used by one not having had already a considerable experience in its use. The ophthalmic method has been championed by some authorities, but on account of some of the dangers to which its use has led in some cases, it is growing into disfavor. Probably the best for general use is the cutaneous method, as suggested by Von Pirquet. It is easily administered, and is safe in the hands of even the most inexperienced, where the ordinary rules of asepsis are followed. It is claimed that this test will show the characteristic reaction in 75% of cases of tuberculosis, and the reaction is to be relied upon as a positive evidence of the presence of tuberculosis in the suspected case showing it. The cutaneous method especially appeals as the best of the different tests on account of its simplicity and ease of administration, slight danger, if any, from an overdose, and the good degree of accuracy in its results. However, there should always be sufficient symptoms or physical signs present to corroborate a positive reaction of any test, and while these symptoms or physical signs in themselves are insufficient to warrant a positive diagnosis of tuberculosis, yet, when coupled with a positive reaction with a test, they have especial value. A positive reaction from any test, uncoupled with symptoms or physical signs, is insufficient evidence on which

to make a positive diagnosis of tuberculosis. The cutaneous method is of great assistance in locating cases of tuberculosis in schools, asylums, etc. Again, it can be administered in suspicious cases that cannot remain away from work sufficiently long, or have not the proper conditions of home life that will permit them being given the subcutaneous test.

As to the likelihood of danger arising from the hypodermic use of tuberculin, either in tests or when used therapeutically, when carefully and properly administered, there is no evidence that tends to show any harmful results from its use, but, on the contrary, many patients experience a feeling of improvement after its use. Many cases in which a positive reaction has resulted from the sub-cutaneous test have dated their improvement from the reaction. Men who are scientists, over the whole world, and who give their entire time and attention to the treatment of tuberculosis, use tuberculin for therapeutic purposes and as a test, and were it the exceedingly dangerous substance that it is depicted to be by some, it is safe to say that it would have fallen into disuse many years ago.

In Conclusion.—In order to get good results in the treatment of tuberculosis it is necessary to make an early diagnosis. The responsibility to the physician is great, and he cannot use too much care to elicit a proper diagnosis. The idea that it is advisable to keep the patient in ignorance of the real nature of his or her malady, to be told that they have tuberculosis will so depress them as to hasten the end, has been proven to be unsupported by the facts. It is absolutely necessary to have the complete co-operation of the patient in the treatment, and patients cannot be expected to lend co-operation in a treatment that requires so much time, fortitude and patience unless they know the nature of their disease. It is the rarest exception to note any detrimental depression that results from acquainting the patient with the full and complete facts regarding his or her condition; but, on the other hand, there are numberless instances where patients have died from tuberculosis who did not find out the true na-

ture of their disease and condition until the time had passed when any chance was left to them to regain their health.

DISCUSSION.

DR. WM. A. JENKINS: Of course, it goes without saying that I have enjoyed this paper very much.

The lesson that comes to every one of us who is at all interested in this universal campaign against the "Great White Plague" is this, *that we must make an early diagnosis in order to be successful in the management of these cases*, and that to make an early diagnosis the essential point is for everyone of us to be more thoroughly and systematic in our examinations. Do not countenance the use of such expressions as "stomach cough," "weak lungs" and "bronchial catarrh." Do not be haphazard, but whenever the slightest suspicion is aroused in our mind and we are at all warranted in so doing, we should insist upon carrying out every procedure that may throw any light whatever on the subject.

The clinical symptoms of chronic cough, hemorrhage, night sweats, chronic emaciation, daily rise of temperature, rapid heart, chronic aphonia, chronic pleurisy, family history of tuberculosis, any rales which persist, lengthening of the respiratory murmur, etc. Anyone of the above factors which persists and cannot be explained on any other hypothesis, is sufficient to excite our suspicion and justify a thorough physical examination. There is only one way to make a physical examination of the chest for any condition; and that is, to strip the patient to the waist line and go over him carefully and systematically; the standing position is best.

On inspection we generally get such things as the essayist has mentioned, viz: phthisical habit, supra and infra clavicular depression, winged scapulæ, lagging of one side on forced inspiration, fixity of the upper part of the chest, etc.

Palpation.—Palpation may or may not be of value. To discover anything by palpation would necessitate, first, a sufficient amount of consolidation to produce vibrations (said consolidation must be reasonably near the surface of the chest); second, that the physics of the transmission of sound is not interfered with. This interference may arise on the one hand by blocking of the bronchial tubes between the voice box and the site of the lesion; on other hand by thickening or infiltration of the plenra,

thus cutting off the sound between the site of lesion and the external walls of the chest. Vibrations are commonly felt by the hands over the site of tubercular lesions. Failure to get this symptom, however, does not negative the presence of tuberculosis, because the sound waves are never produced, or are dissipated for the reasons given above. More or less the same line of argument will apply to percussion and the same laws of the dissipation of sound waves would also apply. As a rule, this is a very valuable method of examination. Always compare the findings with the exact anatomical point on the opposite side of the chest. And always keep in mind a mental picture of the sounds which should be elicited over any given anatomical area in the normal chest, bearing in mind also the fact that the right apex differs from the left apex in character of sounds. If this point be not well understood the unwise or inexperienced examiner may diagnose infiltration when none is present.

Auscultation is by far the best single method of examination we have insofar as the intra-thoracic organs are concerned. It frequently furnishes us with a marked amount of evidence. The same remarks about the interference with sound waves will also apply here, but as a rule, if the lesions are of sufficient size to produce variation in the sound waves, they will be more faithfully and fully detected by auscultation than by any other means.

We may get partial or complete bronchial breathing, clicking rales at the end of inspiration, crepitant or crackling rales which persist at the same place, etc.

Even in the case of women who are sent to me for careful examination of the chest I insist upon removal of the clothing to the waist line draping a big sheet around their shoulders and holding this in front; one may walk entirely around the patient exposing only a small portion of the chest at a time. There is nothing objectionable in this, and besides you can sweep away all objections by telling them that you may do harm to yourself and injustice to your patient if not allowed to have full sway in making a proper examination.

There is one contra-indication to a thorough physical examination, that is where the patient is having continuous and marked hemorrhages or has just had the hemorrhage. In these cases I would not make an examination for the simple reason that the efforts the patient puts forth in the way of forced expirations, coughing, counting, etc., may perhaps cause the removal of the little plug by means of which nature has stopped the hemor-

rhage. I always tell my students to avoid making a thorough examination when the above conditions obtain.

In the main, treatment divides itself into two parts ; first, the treatment of the active symptoms ; second, the treatment of the underlying condition. As a general rule, whenever active symptoms are present, it means close attention to them until they are completely under control. Insofar as the management of the underlying condition is concerned, after the relief of the active symptoms very little is to be obtained by the use of medicines. If you believe that the stomach of the individual needs medicine and he has the ability to absorb and assimilate it, all right.

The best results are obtained by an unlimited amount of fresh air and sunshine. Proper quantity and quality of food taken at the right time. Regulate the expenditure of bodily energy, watch the breaking down and building process to see if the balance is on the right side. Relentless attention to detail by both patient and doctor. Inform him of his condition and its dangers. Get acquainted with all the facts in the patient's life. How he spends his time, condition of appetite, sleep, digestion, hygiene, diet, psychical treatment, climate, gastro-intestinal symptoms. Usually, if not too far advanced, they will steadily gain in weight. If improvement does not occur look him over carefully; possibly you are not attending to everything, or he is not carrying out your instructions.

I believe the essayist has enumerated the chief measures that are recognized in the management of these cases and agreed to by all specialists along these lines. One thing which was new to me is the removal of night sweats by the use of sulphate of magnesia. That is an entirely new point to me.

I have always contended that for internal hemorrhages anywhere, medicines are of very little use ; rest will do a great deal. We may remove the subjective excitement and do perhaps some good by the hypodermic administration of morphine and atropine. There are only two lines along which we can assist nature—by lowering the blood tension and by doing any reasonable thing that will increase the coagulation of the blood, and when we have done those things we have done all we can do for hemorrhage.

DR. J. A. FLEXNER : It may sound rather flat to say that all the members of the Society who were present enjoyed Dr. Rembert's paper as much as his hospitality, and his hospitality as much as his paper. The publication of this paper in the pro-

ceedings of the Clinical Society will be of immense value. The essayist put before us what I regard as the most important features connected with the early diagnosis of tuberculosis; namely, the history, going into it exceedingly minutely, the method by which the chest should be examined, and, finally, the various uses of tuberculin in tuberculosis. I think he is coming around to the view that, in a great many cases, the use of the Von Perquay test is one of the readiest means we have at our command in the diagnosis of tuberculosis wherever it may be situated in the body, and that leads me to emphasize one of the things the essayist called attention to insofar as the lung is concerned. Any of the ordinary tuberculin tests—the eye test, the hypodermic tests, or the urethral test—indicate, of course, the presence of tuberculosis.

I see where Lord says that more cases will re-act to the cutaneous test than any other. That is denied by Von Perquay and other men who have used it, yet I think it emphasizes the necessity for the closest possible study of the chest itself. If we get positive reaction without demonstrating a lesion of any particular size, the inference that that patient is a proper subject for sanatorium treatment is not a correct one. The tuberculin test is one of the most valuable crutches we have to lean upon, but it is not the whole thing. Diagnosis ought to be made, if possible, from the local signs, and then, if necessary, one of the tuberculin tests may be employed to confirm the diagnosis, and for the particular purpose of showing the patient and his family that the tubercular process actually exists. I think the skin test has the advantage over any other test unless it be the eye test which is being used less frequently on account of the danger.

I regard the paper as one of the best I have ever heard anywhere on this subject, and I hope it will be widely read.

DR. JOHN R. WATHEN: I can add very little to what Dr. Flexner has said. I especially enjoyed the hospitality extended by the doctor, and I believe our trip proved to be an extremely educational one.

One thing he said in his paper particularly appealed to me, and that was in regard to the use of calcium salts, and the positive results he has obtained from the use of calcium lactate in cases of hemorrhage. This information will, I think, be of great value in a certain class of selected cases where hemorrhage might be anticipated. Also the positive results noted in the administration of fluids with a view to decreasing the ten-

dency to hemorrhage. These are points every one can appreciate independently of those who treat that particular kind of pulmonary tuberculosis.

DR. EWING MARSHALL: I was interested in a great many of the points which the doctor dwelt upon in his paper, and I have been very glad to discuss the paper when it was read, had time permitted, because there were many things that I wanted to ask about, but I did not keep any memoranda of them.

One thing that comes to me now, and that interested me greatly, was his statement in regard to the use of Epsom salts, the constipated condition of the patient aggravating the case very much, and producing night-sweats, which were easily relieved by a few doses of Epsom salts.

Another interesting fact—and one which we also see in certain surgical conditions—is that the pulse is of so much more importance in these cases than the temperature. Formerly the thermometer was the great indicator of these tubercular troubles and it was generally considered that, where there was no other explanation for a persistent temperature, we should suspect tuberculosis. The essayist stated that, in his experience, the pulse was more indicative of the outcome of the case than the temperature—that a high temperature did not, by any means, indicate as grave a condition as a rapid or irregular pulse.

It was very interesting to me to observe the care of the patients at the sanatorium, living out-of-doors and under the care of such a competent man as Dr. Rembert. I do not believe we could find a man in this locality to surpass the doctor in that line of work, and I think every member who missed the meeting should read the paper with a great deal of care.

I would like to ask the doctor what is the prospect for these people. I have seen reports from abroad to the effect that the results are not always satisfactory; that where the patient has only a limited income and must return to work and is unable to continue the details carried out at the sanatorium, he very often declines more rapidly after coming back from the institution.

DR. W. H. WATHEN: What is the cause of night sweats in tuberculosis? Is it due to the weakened condition of the system?

DR. REMBERT: Dr. Lawrence Flick has brought out that point better than anyone else. He thinks night sweats are entirely due to faulty elimination; in other words, more poisons are generated and locked up in the intestinal canal than the system can take care of, and as soon as we are able to bring about two

or three satisfactory movements of the bowels, the patient is able to take up what is left. Night sweats are nearly altogether due to poisons generated in the body which the system is not able to tolerate, but as soon as the intestines move and the poisons accumulated there have passed away, the patient is usually able to take care of the rest.

DR. W. H. WATHEN: Is there any reason why Epsom salts should act better than anything else?

DR. REMBERT: I do not know of any specificity in Epsom salts, but it has been used by Dr. Flick with such satisfactory results that no one has seen fit to change. It is very possible that any hydragogue would do it; whether it would or not, I am not prepared to say.

DR. T. P. SATTERWHITE: I think all the members who did not avail themselves of the opportunity of attending the meeting at the Sanatorium sustained a very serious loss, and I would advise them to read the paper when it is published.

I have always believed in institutional treatment for tubercular trouble, and I think everybody suffering from this disease should go to a Sanatorium for treatment if they can do so.

We had a very pleasant evening, and I enjoyed it very much.

DR. COOMES: In regard to the dosage of calcium lactate, can you dose them too much with it?

DR. REMBERT: I hardly think you can from what I have been able to understand. I know that some observers have, in cases of quite extensive hemorrhage, given as much as a drachm at a time. The usual dose is fifteen, twenty, twenty-five or thirty grains, three, four or five times a day.

In the administration of calcium lactate to increase coagulation, one of the greatest essentials is that the intestinal canal shall be kept well open. Wright and others who worked up calcium lactate in connection with hemorrhage, found that where the intestinal canal is locked up, so to speak, the effect of the calcium lactate is very much impaired. We have to keep the patient very quiet, and if the bowels do not move for four or five days the absorption of the calcium lactate is, to a certain extent, lessened. However, this is the lesser of the two evils, and even though some of it remains unabsorbed in the intestines, it is better so than to put the patient to the exertion of having a bowel movement during the first few days of hemorrhage.

I usually administer calcium lactate by the mouth as a pow-

der, and the patient washes it down with a swallow of water. It can be used in capsules, but is apt to become gummed, and is not so easily absorbed. It can also be used in solution, but if you let it stand for any length of time it undergoes decomposition, and becomes unfit for use.

I want to say that the visit of the members who braved the elements and came out to the Sanatorium was the source of the greatest possible pleasure to me, and if I was able to contribute to their entertainment in the way of a paper, that also afforded me a great deal of pleasure. I want to thank Dr. Jenkins for his discussion at the Sanatorium; I enjoyed every bit of it, as well as the discussion of Dr. Flexner touching upon the use of tuberculin, and laying stress upon the examination of the chest, which should be corroborated by the use of the test. Of course, we cannot rely upon the test alone, but in cases where we get the reaction from the test, and cannot find any physical signs to make the diagnosis positive, we should keep the patient under close and careful observation, and time will help us to ascertain what and where the trouble is, and what should be done.

In regard to Dr. Marshall's remarks about the after treatment of these patients, that is a question that is worrying sanatorium men probably more than anything else just now. Of course, the likelihood of return is increased in direct ratio to the amount of involvement when the patient is admitted to the Sanatorium. In incipient cases, under careful management, fifty to fifty-five per cent. are discharged as cured. The probability of return in such cases is comparatively slight. In moderately advanced cases, thirty to thirty-five per cent. have no return, but where we get far advanced cases, to the point of cavitation where we cannot expect an absolute cure, and certainly not an anatomical cure, the likelihood of return is very great. Unfortunately, the majority of such patients cannot remain in the Sanatorium a sufficient length of time, or to take treatment after they leave the Sanatorium; but, as is so often the case, they find it necessary to return to work in order to support themselves and families. I think, after all, if the good the Sanatorium does is measured by the returned cures, or in the numbers of arrests in cases that leave the Sanatorium, the means is justified by the end. At the same time, I think one person has very well described it when he says that the Sanatorium is nothing more than a link in the chain of education. While it may bring about an improvement in the individual case, the

Sanatorium is more for the purpose of instructing the patients, so that when they return to their homes they may know how to take care of themselves, and keep from infecting their families, and act as missionaries, so to speak, among all with whom they come in contact. I think that is the greatest work of the Sanatorium.

To come back to the point again, as to the likelihood of return, there are a goodly percentage of these cases that do go back to where they were before they entered the Sanatorium. As to whether they go back faster than they did at first, I think they do. Every exacerbation of the symptoms when the disease is in an arrested condition puts them farther down the scale than before. If a patient comes to you with involvement of one lung, and it is pretty well involved, and you arrest that condition, the next time you have a farther progression it has to be in more than that lung, and it goes into the other lung. With every return of the symptoms there is a coincident reinfection, and naturally the patient's condition is usually worse than it was in the preceding attack. The after care of tuberculous patients will probably be worked out better in the future, because some effort will probably be made to establish colonies, or special lines of work that are particularly adapted to these patients, where they can be under more or less constant observation over a long period of time, and will be watched even after they leave the Sanatorium. In that event the percentage of return will be very much less than it is now.

Proceedings of Societies.

THE LOUISVILLE CLINICAL SOCIETY, DECEMBER 8, 1908.

DR. A. D. WILLMOTH : Some two weeks ago last Monday I was asked to see the wife of one of our senior students. This girl was 24 years of age, and had been a resident of Illinois up to four or five years ago, when her family moved to Denver, Colorado, where she lived until about eight weeks ago, when she married this student and came to Louisville. I was asked to see this woman because, in looking into the mirror, she discovered that she had lost her color, and her skin had assumed a peculiar waxy appearance ; otherwise, she felt very

well. Incidentally, she weighed herself some forty-eight hours later, and discovered that she had lost about eight or ten pounds since coming to Louisville. Two days after she had noticed this she began to have some little pain and a weighty feeling in the region of her liver. On that afternoon her husband took her temperature, and found it to be 101.4-5. The next morning it was 90. She ran along this way for two or three days. He gave her two or three grains of calomel with no result, and this was followed by two C.C. pills, and followed this in turn with a Seidlitz powder, and got a light movement on the bowels. On that day I was asked to see her, which was about the seventh or eighth day after the beginning of the trouble. I found her with a temperature of 102; pulse about 80. Upon examining her, I found, on the right side, a liver dullness extending from the anterior superior spinous process up to within half an inch of the nipple. I prescribed some phosphate of soda. At any rate she got no better. Two days later I was again asked to see her, and found her in the same condition; temperature about 99 in the morning and 101.2-5 to 102 in the afternoon, with some nausea, but only one time did she become sick enough to vomit. There was no bile in the stools or the urine, and she suffered complete loss of appetite. At my suggestion, Dr. Boggess saw the case, but was unable to suggest anything more than I was doing.

I had her removed to the Infirmary that afternoon, and asked Drs. Abell and Sherrill to see the case. Both agreed that it was liver trouble, and the best thing to do was to drain the gall bladder. This was on Thursday. On Sunday, at the suggestion of some friends, Dr. Weidner saw the case, and he thought perhaps calomel might do some good. She was given a fourth of a grain every four hours for twenty-four hours, but she did not obtain any relief. She ran along with the same amount of liver dullness, with a little tenderness over the region of the liver, and ran a uniform course up to the next Friday, when I asked Dr. W. H. Wathen to assist me in opening the abdomen. At this time she presented the same appearance clinically as she did on the first day I saw her—no jaundice and no bile in the urine, which had been examined three times, and complete loss of appetite. When the abdomen was opened it was found that the pyloric end of the stomach, the transverse colon, the duodenum and the omentum formed just one globular mass. After a little time and patience spent in separating the adhesions, we finally

succeeded in bringing up what we first thought was the gall-bladder, but which proved to be the right lobe of the liver. The adhesions beneath the liver were separated, but that woman had no gall-bladder. It was completely obliterated, and there were simply fibrous remains where the gall-bladder ought to have been, which was all that was left of the gall-bladder so far as we were able to tell. It was separated as far as we thought justifiable at the time, and a drainage tube placed at the original site of the gall-bladder. The rest of the adhesions were walled off with gauze, and the woman put to bed. She has done splendidly all the way through, her temperature at no time being more than 100.25° , and that was on the second day. After her bowels moved it went down to normal. She has not become jaundiced, and she is not passing any more bile than she did before the operation, but the dressings become saturated every day with a serum slightly tinged with yellow.

I report the case for two reasons. One is the entire absence of any history. She says she has been perfectly well all her life. This is the first trouble for which she ever had to consult a doctor. In the second place, it is interesting because of the extensive adhesions that had to be separated. There was no splenic enlargement that we could detect.

DR. W. H. WATHEN: It is impossible for me to discuss Dr. Willmoth's case as intelligently as I would like to, because I did not talk to the woman long enough to get a definite history, nor does it appear that Dr. Willmoth has ever been able to get what ought to be the correct history. I cannot believe that this woman developed the condition that was found without some previous trouble. The trouble was chronic, and has been in progress for several years, as the adhesions were perfectly firm, binding first the omentum over against the mass, and then binding the pyloric end of the stomach, and the duodenum against the very elongated right lobe of the liver. Before the liver could be separated to find out what this was a mass of adhesions had to be pulled up, believing that the gall-bladder would appear enlarged and probably full of gall-stones, but when the adhesions were all separated, the omentum thrown away and the duodenum thrown off, and I could reach my finger up to where the gall-bladder ought to be, it was found to be the elongated right lobe of the liver. I used my finger thoroughly, and separated the adhesions high up to the point where the gall-bladder should have been, but was unable to find any vestige of it. Upon feeling down in

the common duct region, I could find no enlargement indicating a stone.

Just what was the cause of this trouble I do not know, but it must have been an ulcer or a cholecystitis that had existed for a number of years, and had passed beyond the walls of the gall-bladder, causing a peri-cholecystitis, with adhesions to the adjacent structures. She may entirely recover from this operation and have no further trouble. We found that many years ago Thornton reported a case where he separated extensive adhesions in the region of the gall-bladder without finding gall-stones or being able to get at the definite pathology. These patients got over the effects of the operation, and finally made a complete recovery.

Now, if this patient does not entirely recover, she may recover from the immediate effects of the operation, and these adhesive points may be absorbed, and a second operation can be performed to see what can be done.

A remarkable thing is that this woman has no bile in her stools, which would indicate that no bile was passing through the common duct into the duodenum. Then, if that be true, why should she not have bile in the urine? Where was this bile going? Bile is always forming which must be disposed of in one way or another.

Of course, no one can say positively how this case is going to result finally, but I believe she will be a well woman without a second operation.

DR. FLEXNER : Dr. Willmoth has reported a very interesting case. In the first place, it is almost unbelievable that this amount of pathology should be present without a much more definite history of previous trouble than seems to have been elicited. I wonder whether there was ever a history of typhoid fever years ago?

DR. WILLMOTH : No, sir ; I asked about that.

DR. FLEXNER : Or possibly a syphilis. With a liver of this sort we would be perfectly justified in suspecting something of that kind, and it must have lasted over a considerable length of time. The disappearance of the gall-bladder is, of course, difficult to explain. The question that Dr. Wathen propounds is a very interesting one, and one that might be the cause of a great deal more trouble than he seems to think ; that is, the absence of bile, not only in the stool, but in the urine. That would appear to be due to some profound ramifications, not only of the

duct, but of the liver cells themselves, and had this hypertrophy of the liver from some inflammatory reaction. Yet it seems to me the patient was not sick enough to justify a suspicion of such a state of affairs. I think a study of the blood from a histological point of view would be very interesting, because it may be due to some of these blood conditions which arise in conditions of this sort.

DR. EWING MARSHALL: The history of Dr. Willmoth's case is certainly a remarkable one, in that the woman passed no bile in the natural way, and yet there was no bile elements in the urine and no jaundice. It must be that no bile was manufactured, or we would have the elements deposited in the tissues, or in the blood, or in the bowel movements. There must have been some definite history behind all this trouble. It seems to me that a woman with such degenerative changes in the liver would have been in a much more deplorable condition than she is reported to have been.

DR. H. N. LEAVELL: It seems to me there must have been some marked effect on the metabolism of the liver to have brought about such important changes, perhaps an abscess within the liver, causing this enlargement. I do not see how any condition of the liver itself, unless it be due to an abscess or some marked interference with the metabolism of the liver like intestinal hyperplasia, which may be followed by cirrhosis, could bring about such a condition. The absence of the gall-bladder, with all these adhesions, is a very significant argument in favor of peri-cholecystitis, gall-stones, and possible ulceration of the gall-bladder, liberating these stones into the intestines. In that event, however, we would certainly have had a more definite history of long-continued indigestion, gall-stone colic, or something of that sort.

Dr. Robert Morris wrote a very interesting paper, some years ago, in regard to what he called gall-spider cases, and it seems to me that the most plausible explanation that many cases of cholecystitis following in the wake of indigestion, or rather so many attacks of indigestion are really dependent upon cholecystitis, and the formation of adhesions from the gall-bladder to the surrounding structures give rise to constant symptoms; not enough, perhaps, to make the patient think he is subject to gall-stones; not enough, perhaps, to keep them in bed, but sufficient to make them sufferers from mild attacks of indigestion. Those are cases of so-called spider adhesions, web-like adhesions that

grow up over the structures surrounding the liver, and interfere with the nutrition.

It seems to me the suggestion made by Dr. Flexner in regard to the blood count will settle the whole matter conclusively. If excessive leucocytosis is found we might be led to believe that there is an abscess in the liver somewhere, and it seems to me that is the most plausible conclusion in this case. The liver cells must have been interfered with, depending upon where the abscess is situated and how much cell obliteration there is. If there is great cell obliteration, of course there would not be any bile manufactured. We recognize the fact that bile is not formed in the blood; that it goes to the liver, and the liver itself is the manufacturer, and it does not make any difference what condition the blood is in, if the liver is working properly it will extract some bile, if there is any normal blood at all. With this interference with the metabolism of the liver, absence of bile in the stools and in the urine, it must follow that there is serious involvement of the liver metabolism.

DR. E. S. ALLEN: In my opinion, if there is no bile in the stools there should be bile in the urine, if bile is made. I do not believe any condition of the liver, inflammatory or otherwise, could so affect the biliary capacity of the liver without affecting other parenchymatous structures of the liver. We know that bile is made from the hepatic artery, from hemoglobin is the result of hemolytic action taking place. We have other debris, toxic products and their kindred, that the liver makes urea out of, and, to my mind, any condition of the liver stopping bile formation, would certainly affect the urea-forming property of the liver, and we know if this is involved the patient can only live a few days at the longest.

I cannot see how an abscess in one part of the liver, or all of the liver, could extend so far unless every cell is involved. As long as it is getting nutrition it is going to make bile, which is going to be absorbed, and it will be found in the urine or the patient will be jaundiced.

DR. J. R. WATHEN: There are many interesting points in this case. The trend of the argument seems to be to explain the disappearance of the bile. If I understood Dr. Willmoth correctly, there is not complete absence of bile. The stools have occasionally shown color, and it is only temporarily that they are clay-colored.

DR. WILLMOTH : Only on two or three occasions have the stools shown even the slightest trace of bile.

DR. WATHEN : In regard to the adhesions and the absence of the gall-bladder, those familiar with the literature know that this is an every day occurrence. Dr. Miles Porter, Dr. Morris, of New York, Dr. Moynahan and Dr. Mayo Robson, and many others in this country, have cited hundreds of cases where no gall-bladder was found. The *Cleveland Medical Journal* recently published Dr. Morris Richardson's address before the Western Reserve Medical College, in which he cited a number of these cases operated on, where the gall-bladder was found to have sloughed away, and stones, if they had been present, had disappeared, and after the mass of adhesions were broken up the patient made a perfect recovery. Those patients which are shown by operation to have had an enormous amount of chronic inflammation are the very ones that exhibit no symptoms beforehand. Those familiar with the literature know that the Mayos alone have quoted more than fifty cases of this kind. They come to the operating table with a diagnosis of something else—duodenal ulcer, stomach ulcer, etc. That chronic inflammation is not developed in five days or five weeks, but covers a number of years, and when they finally appear on the operating table, we see the living pathology there.

DR. WILLMOTH (*closing*) : I wish to say, in closing, that this woman is very intelligent, and I cannot see why she would want to withhold any previous history if there was one. She says she was in perfect health, and had never had occasion to consult a doctor up to three weeks ago when this trouble began ; that prior to that time she had never had to take anything for constipation.

There seems to have been a little misunderstanding about the bile in the stools. On two or three occasions the bowel movements showed a slight trace of bile. It was almost the characteristic stool we have in obstruction, and all those who saw the case before it came to the operating table diagnosed obstruction of the bile duct, with damming back of the bile in the liver.

In this case it would have been impossible for the gall-bladder to rupture and allow the escape of stones into the bile duct. Dr. Wathen will agree with me that the adhesions to the duct were in such position that anything from the gall-bladder could not get into them.

My opinion is that there was stone in the gall-bladder, with a low form of inflammatory condition which obliterated the gall-

bladder. The case seemed to me especially interesting in that the patient did not have any symptoms up to the time she began to notice this peculiar waxy color of her skin.

Recent Progress in Medical Science.

GENERAL MEDICINE.

MUSTARD PACKS IN BRONCHITIS.

It is astonishing, according to A. A. Herzfeld, New York, (*Journal A. M. A.*, January 9), how few physicians are acquainted with the excellent properties of mustard as a counter-irritant in the treatment of capillary bronchitis and bronchopneumonia in infants and children. For the past thirteen years he and his colleagues have been using a method of its application devised by him with great advantage, which he describes as follows: Two hundred and fifty c.c. (half a pint) of water and 250 c.c. of alcohol are mixed in a large bowl; to this are added from 25 to 50 c.c., according to the severity of the case, of freshly prepared spirit of mustard. The spirit of mustard is prepared according to the German Pharmacopeia (the volatile oil is the active principle of mustard) as follows: Oil of mustard 1 part, pure alcohol 49 parts. A large piece of flannel is moistened with the mixture and wrapped around the child from the neck to the knees. The child is then enveloped in a dry sheet, and the pack is left on until the skin is a bright red, usually in from 15 to 30 minutes. The child is then taken out and wrapped, and left for another half hour in a pack wet with a one part alcohol and two parts water. At the end of this time the child is wrapped in a dry sheet. Usually one pack causes marked improvement, but relapses are frequent, and it may need renewal. Once in twenty-four hours is enough unless the indications are unavoidable. The physician should apply the first pack himself, to determine the strength needed, and to instruct the parents or nurse. Herzfeld sums up the advantages of the method as follows: (1). It is surprisingly rapid in effect. (2). Its light weight does not materially embarrass respiration. (3). It can be applied without removing the enfeebled patient from the bed. (4). It is inexpensive. (5). It is clean.

ANEMIAS OF INFANCY.

J. L. Morse, Boston (*Journal A. M. A.*, February 6), describes the anemias of infancy, reporting numerous illustrative cases. He thinks it probable that Hutchinson is right in recognizing a congenital anemia. This seems to be due in some cases to an insufficient reserve of iron at birth, and in other cases in which it follows a marked icterus neonatorum, being perhaps a sign of excessive blood destruction at birth. He also says there is no doubt that cases showing the blood type of chlorosis are not infrequent in infancy, but he does not recognize the disease chlorosis as occurring at this age. The resemblance of the blood picture to chlorosis is explained by the facts that the hemoglobin percentage is normally low in infancy, while the number of red corpuscles is larger than later in life. Pernicious anemia, he concludes, rarely, if ever, occurs, and, if it does, the blood shows the same peculiarities as in later life, and is almost universally of the metaplastic type. From the peculiar characteristics of the blood-forming organs in infancy the child is especially liable to become anemic under any debilitating or injurious conditions. However produced, secondary anemia in infancy is apt to be more severe than in the adult, and in its pronounced forms it may present a picture that would be diagnosed in the adult as pernicious anemia. The hemoglobin naturally suffers first, but in other than the mildest cases there is also a diminution in the number of red corpuscles and abnormalities in their size, shape and staining qualities, together with nucleated red cells, also appear.

Leucocytosis is also likely to develop. In many instances anemia in infancy is associated with splenic enlargement, which may be of all degrees; enlargement of the liver is also not uncommon. There has been much difference of opinion as to the relation of the splenomegaly to the anemia, whether it is primary or secondary, or whether both may not be manifestations of some other diseased condition. Others believe that the marked cases are leukemia of a special infantile type, and still others place them in the indefinite class of adult splenic anemias. Pathologic data are comparatively few. The chief changes in the spleen are increase of connective tissue, usually associated with diminution of the pulp. There are never the changes observed in leukemia, but only those of other cachetic conditions, such as rickets and syphilis. There are no characteristic changes in the liver or bone marrow. Splenic tumor is not uncommon

in infancy without anemia, and the anemia may improve or disappear without any change in the size of the spleen, and Morse thinks it reasonable to assume that they are independent of each other, and that we should, therefore, call these cases simply secondary anemia with splenic tumor. It is possible, he admits, that they may not all have the same pathology, and some of them, as Wolf suggests, be related to or identical with Banti's disease. True leukemia is rare in infants, but it does occur, and he reports a case of the a leukemic type in a child aged two years, with autopsy and microscopic findings.

PARATYPHOID FEVER.

F. Proescher and J. A. Roddy, Pittsburg, Pa. (*Jour. A. M. A.*, February 6), report forty-eight cases of paratyphoid fever (type A) occurring in the Allegheny General Hospital, Pittsburg, in 1907-8. They describe their method of making blood cultures and agglutination tests; the blood taken under aseptic precautions, was incubated fifteen hours in a mixture of two parts calf bile, one part bouillon, two per cent. glycerin and two per cent. peptone, and then inoculated on tubes of agar and incubated for another fifteen hours. At the end of that time, it was examined microscopically and if a motile, Gram-negative bacillus was present it was inoculated in milk-sugar bouillon, grape-sugar bouillon, milk and litmus whey. (For rapid, accurate, clinical work it is only necessary, they say, to put the blood in calf bile bouillon, incubate for fifteen hours and then inoculate the above mentioned culture media with it. In this way a diagnosis can be made in thirty hours). The agglutination tests were made by Proescher's method (*Centralbl. f. Bakteriöl.*, 1902). The agglutination test with an artificial serum is the most reliable method of differentiating type A from type B of the paratyphoid, the acid and color reactions not being entirely constant. All the organisms isolated from the patients were of the type A, which is less fatal to experimental animals and appears to be much more common in this country than in Europe. They describe the characteristics of paratyphoid fever, its more abrupt onset, the uniform appearance of the tongue throughout the disease, the rarity of complications, etc., and sum up their conclusions as follows: "Paratyphoid fever is a distinct disease, differentiated from typhoid fever by the following characteristics: (1). It is due to an infection by a bacillus which is not the typhoid bacillus. (2). The onset is more sudden, the duration shorter and the dis-

ease milder than typhoid fever. (3). Hyperpyrexia never occurs, complications are rare and there are no sequelæ. (4). The mortality is less than two per cent. On account of the variability of the initial symptoms, the maintenance of fever for more than two weeks in some cases, and the frequent similarity of irregular cases to mild cases of typhoid fever, a positive clinical diagnosis can rarely be made. All require, and should have, for expert diagnosis, an examination of the blood and the recovery, growth and recognition of the bacteria." A bibliography of the principal literature of the disease is appended.

PYLORIC STENOSIS.

James Spencer Brown, of Montclair, N. J., (*Medical Record*, January 23, 1909), says that in most cases of gastric ulcer we do not have the typical picture, and therefore the diagnosis is not easy. The individual symptoms must be studied. Pain is present in all cases of ulcer, in forty per cent. of cancers early, and in one hundred per cent. late. Anemic dyspepsias and hemorrhagic gastralgia must be differentiated from ulcer. Pain depends rather upon the individual than the position of the lesion. Hemorrhage and vomiting are so common in stomach troubles that they are not distinctive signs. Dilatation need be considered only when there is food stasis. Stomach analysis, chemical and physical, is our main diagnostic resource. The routine to be followed in distention of the stomach is withdrawal of food eight hours after a meal, analysis after a test meal, microscopical examination of contents of fasting stomach, and microscopical and chemical analysis of feces. Pyloric stenosis may be caused by spasm or may be organic. The size of the orifice does not account for the amount of food stasis, which must be explained by spasm preventing the chyme from passing out. Diseases of the pancreas play an important part in causing pyloric spasm. Cancer of the stomach may be cured by operation undertaken before glandular involvements, hence the value of early diagnosis. Chronic duodenal ulcer causes duodenal stenosis in most cases.

SPUTUM EXAMINATIONS.

A. T. Laird, Albany, N. Y. (*Journal A. M. A.*, January 23), offers some suggestions in regard to sputum examination for diagnostic purposes. The main points are a more careful use of

terms in describing macroscopic appearances, and certain matters to be noted in the microscopic appearance of the sputum. Under "macroscopic appearance" the specimen is described as watery, mucoid, mucopurulent, purulomucoid, purulent or bloody. If one of the other varieties is simply blood-streaked the fact is noted, but only pure blood is called bloody sputum. In the microscopic examination the presence or absence of tubercle bacilli is noted. Their number is estimated accordingly to the Gaffky scheme and their arrangement is recorded if desired. Under the heading "cells," particular attention is given to squamous epithelial cells and to pus cells (polynuclears). If the former are present in large numbers they are given preference in the statement of cells present, and if the pus cells are numerous they are accorded first. The presence of small round cells, alveolar cells, and, in appropriately stained cells, of eosinophiles, may also be mentioned. Mononuclear cells are rarely in the majority. As regards secondary organisms it is first noted whether they are few or many and then further details may be added. He gives a table showing how in a series of 541 cases there was a natural grouping into four types, the last of which, the mucopurulent with numerous pus cells, he calls the "bronchial type," and says it is desirable to obtain such to determine the presence or not of tubercle bacilli or organisms causing mixed infection. The tubercle bacilli may be occasionally found in the watery or mucoid type or the purulomucoid with predominating squamous cells, which are usually derived from the mouth or throat, but no inferences as to mixed infection should be drawn from the examination of such specimens.

SOME POINTS IN THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

Albert H. Garvin, of Ray Brook, N. Y., emphasizes three points in the diagnosis of pulmonary tuberculosis—the insidiousness of the onset, which causes the patient and the physician not to appreciate the seriousness of the condition; the importance in physical diagnosis of auscultated cough, and the importance of examining the family of the patient as to other possible cases existing. The early patient complains of nothing, suffers from nothing, and there are no obvious symptoms. Each advanced case is a center for infection, and the source of infection in each case should be traced in the immediate or collateral family, or in the surroundings, or place of work. Of the symptoms that aid

in a diagnosis cough and expectoration are not early signs; hemorrhage comes only after ulceration has occurred. In 20 per cent. of cases it is the cause of the diagnosis being made. Obvious loss of weight is a valuable sign, but occurs somewhat late in the disease. Fever and chills do not generally occur earlier than the end of six months from the infection. In examination the most valuable sign is auscultation, especially after coughing slightly. Then the rales come out, which otherwise would not be heard. The type of respiration is of value. The length of the inspiratory murmur, its pitch and intensity are valuable signs. Auscultation of the apex posteriorly gives a shower of rales, and marked changes in voice, breathing and whisper. The tuberculin test is of value in apyetic cases.—*Medical Record*, January 30, 1909.

TYPHOID PERFORATION.

A. J. Brown, Rome, N. Y. (*Journal A. M. A.*, February 27), calls attention to two new signs which seem to him to be important in the early diagnosis of typhoid perforation. These are what he calls the "dipping crackle" and the tendency of the pain and tenderness to approach the side that is lowermost when the patient is turned on the side. Both of these signs are illustrated by cases. The "dipping crackle" sign is heard on placing the bell of the stethoscope over the right iliac fossa and dipping suddenly with it as in dipping palpation. A very fine crackle was then heard which sounded much like a fine crepitant rale, or as if two sticky surfaces were being drawn apart. This was present in three of his seven cases, and appears to him to be a rather valuable confirmatory sign, as it seems to be due to the fact that in dipping suddenly the parietal and visceral layers of the peritoneum come in contact for an instant, and apparently the inflamed surfaces stick together for a moment and then pull apart. He has never found the sign present over an area of more than two inches in diameter, and never later than four hours after the initial symptom, presumably because the accumulated gas prevents the surfaces from coming in contact. The second sign is due to the gravitation of the extruded contents of the intestine. On the occurrence of a sudden, sharp pain in the lower part of the abdomen, and especially in the right iliac fossa, accompanied by tenderness, with or without rigidity, the abdomen should be carefully examined and the area of the tenderness mapped out. The patient should then be

turned on the unaffected side, and if, in from fifteen minutes to half an hour, the tenderness has moved one or two inches, or if, at any time, the tenderness and rigidity become marked, immediate operation is indicated.

THE HEMOLYTIC PROPERTIES OF CANCER SERUM.

A. S. Blumgarten, of New York, (*Medical Record*, January 9, 1909), gives a contribution to the study of the hemolytic power of blood serum in patients suffering from advanced cancer, ten controls from normal subjects, and forty cases of other diseases.

The results were divisible into four groups: Those failing to hemolyze cancer corpuscles, but hemolyzing controls; those hemolyzing both cancer and control; those which hemolyzed cancer but not control, and those hemolyzing neither. Of cancer sera seventy-two per cent. fall into the first group. The author regards this test as of doubtful diagnostic value in cancer.

Book Reviews.

ANATOMY, DESCRIPTIVE AND SURGICAL.—By Henry Gray, F. R. S., late lecturer on Anatomy at St. George's Hospital, London. New American edition, enlarged and thoroughly revised, by J. Chalmers Da Costa, M. D., Professor of Surgery and Clinical Surgery, and Edward Anthony Spitzka, M. D., Professor of Anatomy, in the Jefferson Medical College of Philadelphia. Imperial octavo, 1625 pages, with 1149 large and elaborate engravings. Price, with illustrations in colors, cloth, \$6.00, *net*; leather, \$7.00, *net*. Lea & Febiger, Publishers, Philadelphia and New York, 1908.

Entering upon its second half century, this most remarkable work, the expression of a genius, long since established as a classic in the realm of the anatomical world is as popular to-day as when first offered to the medical profession. The appearance of the new seventeenth edition attests this fact, which edition is brighter and better than ever; on nearly every page of this truly wonderful work one is confronted by changes which make a decided improvement in its general makeup and appearance, and which add immensely to its intrinsic value as a text-book. Being thoroughly revised throughout, some sections re-written to conform to recent ideas and with such marked alterations in many of the engravings brings this old landmark distinctively up to date and essentially abreast of the most modern anatomies. Nothing has been overlooked in the execution of the new revised edition in making it the very best and modern in every respect.

From an artistic point of view, having been done so beautifully in colors, it will be hard to surpass as a text-book for student and teacher alike, for convenience, labor-saving, and being so lucid and graphic in style it is doubtful whether or not its equal will ever be found. The proof demonstrating the real value of this work is that it has stood the test of years, scholarship, analysis, and art. Time has undeniably asserted that this work will not grow old and its displacement has not as yet been accomplished. Unquestionably to the medical world's best literature we must add the Anatomical Masterpiece of Henry Gray which constitutes all that is good and best in its line.

DISORDERS OF THE BLADDER—Clinical diagnosis and treatment of, with technique of cystoscopy, by Follen Cabot, M. D., Professor of Genito-urinary Diseases, Post Graduate Medical School; Attending Genito-urinary Surgeon, City and Post-Graduate Hospitals, New York. Cloth, 225 pages, with illustrations. Price \$2.00. E. B. Treat & Co., Publishers, New York, 1909.

This work should win its reputation as a ready hand-book for the student and busy practitioner. The author deals principally with the methods of diagnosing and treating disorders of the bladder, gathered from an extensive personal experience. The subjects of cystoscopy embracing the details of its technique, ureteral catheterization and cystitis are particularly well handled. The matter and method is set forth in a plain and comprehensive manner. For quick reference and to the point it is a valuable adjunct to vesical work. The book is illustrated.

BOOKS AND PAMPHLETS RECEIVED.

AMERICAN PRACTICE OF SURGERY.—A complete System of Representative Surgeons of the United States and Canada. Edited by Joseph Decatur Bryant, M. D., and Albert Henry Buck, M. D. To be published in Eight Royal Octavo Volumes. New York, Wm. Wood & Co. Volume V, 973 pages, illustrated by 452 line and half-tone engravings in the text and by eight full-page plates by chromatic-lithography and other processes. (Subscription.)

PRACTICAL DIETETICS.—With reference to Diet in Disease. By Alida Frances Pattee. Fifth Edition. A. F. Pattee, Publisher. New York.

DISORDERS OF THE BLADDER.—With Technique of Cystoscopy. By Follen Cabot, M. D. Eighth Volume, 225 pages, 41 illustrations, 1 colored plate. E. B. Treat & Co., Publishers, 241-243 West 23rd St., New York.

FOOD POISONING.—A Concise Exposition of the Etiology, Bacteriology, Pathology, Symptomatology, Prophylaxis, and Treatment of so-called Ptomaine Poisoning. By Prof. Dr. A. Dieudonne, Munich. E. B. Treat & Co., Publishers, 241-243 West 23rd St., New York.

FESTBAND.—Utgifvet Af Svenska LaKaresallskapet. Till Minne Af Dess Hundraariga Verksamhet Den 25 October, 1908. 2 Delar Med. 20 Taflor Och 81 Afbildningar i Texten. Redigeradt Af Prof. Dr. Carl Sundberg. Stockholm 1908. Isaac Marcus Boktr-Aktiebolag. Vols. 1 and 2.

SEVEN HUNDRED SURGICAL SUGGESTIONS.—Practical Brevities in Surgical Diagnosis and Treatment. By Walter M. Brickner, B. S., M. D., Eli Moschowitz, A. B., M. D., Harold M. Hays, M. A., M. D. Third Series. New York, U. S. A. Surgery Publishing Company, 92 William Street, 1909.

TREATMENT OF FRACTURE OF THE SPINE.—By J. T. Dunn, M. D., Louisville, Ky. Reprint.

REPORT OF CASE OF TETANUS.—By J. T. Dunn, M. D., Louisville, Ky. Reprint.

TREATMENT OF CANCER OF THE BREAST, WITH SPECIAL REFERENCE TO THE VALUE OF ROENTGENOTHERAPY.—By J. T. Dunn, M. D., Louisville, Ky. Reprint.

HYGIENIC LABORATORY.—Bulletin No. 46, June, 1908, by W. W. Miller.

ILLINOIS STATE BOARD OF HEALTH.—The Medical Department of the State Government. Monthly Bulletin November, 1908, Volume 4, Number 10. Rules for Davis Infirmary, Birmingham, Ala.

The presence of the tubercle bacillus in the urine is not conclusive evidence of reno-ureteral tuberculosis, as: (a), Tubercular ulcer may have perforated the bladder; (b), the bacillus may be projected through the ejaculatory duct from the vesiculæ seminales; (c), it may arise in glands of the prostate; (d), the bacillus may be filtered through the kidney (from extrarenal tuberculosis).

—BYRON ROBINSON.

NOTES AND PERSONALS.

Battle & Co., St. Louis, Mo., have issued No. 8, of Dislocation Chart series. Physicians desiring any back numbers can get same on request.

MARRIED.—Dr. Kelley Charles Fitzgerald and Miss Nell-gene Schnee, on Tuesday evening, February 3rd, 1909, at eight o'clock, at St. Stevens Episcopal Church, New Harmony, Ind.

The Governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley, will give a tenth series of Clinical Lectures on Diseases of the Skin, in the Out-patient Hall of the Hospital, on Wednesday afternoons, commencing March 10, 1909, at 4 : 15 o'clock. The course will be free to the medical profession.

WILLIAM C. WITTER,
Chairman Executive Committee.

XVITH INTERNATIONAL MEDICAL CONGRESS.

We are requested to call attention of Speakers at the XVith International Medical Congress that the Manuscripts of their addresses should be despatched by the 28th February, 1909, at latest date, to the office of the Congress, VIII. Esterházy-utca 7, Budapest (Hungary).

We would also remind them that the subscription to this scientific gathering is twenty-five crowns in Austro-Hungarian currency, which sum may be sent by Post Office Money Order to Professor Dr. de Elischer, Treasurer of the Congress, VIII. Esterházy-utca 7, Budapest.

GREATER NEW YORK NUMBER.

An unusual feature of medical journalism will be presented in the March issue of the *American Journal of Surgery*. The entire original subject matter in this issue will be contributed by New York City surgeons of note, and a number of new operations will be first presented therein. Among the contributions to appear are :

A NEW AND SIMPLE METHOD OF INTESTINAL ANASTOMOSIS.
(Illustrated). HOWARD LILIENTHAL, M. D., Attending Surgeon Mt. Sinai Hospital.

SIGMOIDITIS AND PERISIGMOIDITIS.—JAMES P. TUTTLE, M. D.,
Professor of Rectal Surgery, N. Y. Polyclinic, New York.

SACRAL SUSPENSION OF THE UTERUS—A NEW TECHNIC.—(Illustrated). JAMES VAN DOREN YOUNG, M. D., Surgeon St. Elizabeth Hospital, New York.

CANCER OF THE BREAST.—WILLY MEYER, M. D., Professor of Surgery, Post-Graduate Medical School; Attending Surgeon of German Hospital, New York.

A MODIFIED OPERATION FOR INGUINAL HERNIA. — (Illustrated). ALBERT E. SELLENINGS, M. D., New York.

THE LOCALIZATION AND REMOVAL OF FOREIGN BODIES WITH ESPECIAL REFERENCE TO THOSE IN THE SKELETAL TISSUES.—(Illustrated). DR. WALTER M. BRICKNER, Assistant Adjunct Surgeon, Mt. Sinai Hospital; Editor-in-Chief *American Journal of Surgery*, New York.

AN OPERATION FOR DIRECT BLOOD TRANSFUSION WITH A DESCRIPTION OF A SIMPLE METHOD.—JOHN A. HARTWELL, M. D., Attending Surgeon to Bellevue Hospital, New York.

PLASTIC MASTOID OPERATION — A NEW METHOD OF OPERATING IN ACUTE MASTOIDITIS.—T. F. HOPKINS, M. D., Attending Surgeon Oral, N. Y. Eye and Ear Infirmary, New York.

DISLOCATION OF THE CERVICAL VERTEBRÆ. — (Illustrated) — JAMES P. WARBASSE, M. D., Special Editor, *American Journal of Surgery*, Attending Surgeon to Seney and German Hospitals, Brooklyn.

SURGERY OF THE PERICARDIUM AND HEART.—H. BECKMAN DE LATOUR, M. D., Attending Surgeon to St. John and Norwegian Hospitals; Professor of Clinical Surgery Long Island Medical College.

FIBROSIS UTERI AND ITS SURGICAL TREATMENT. (Illustrated). S. W. BANDLER, M. D., Adjunct Professor of Gynecology, N. Y. Post-Graduate Medical School.

LARYNGEAL STENOSIS IN ADULT, SUCCESSFULLY TREATED BY INTUBATION.—WILLIAM K. SIMPSON, M. D., Professor Laryngology, College of Physicians and Surgeons, New York.

MEDICAL DEPARTMENT OF WESTERN RESERVE UNIVERSITY, CLEVELAND, OHIO.

ADVANCE OF REQUIREMENTS FOR ENTRANCE TO BECOME EFFECTIVE 1910-11.

The Medical Department of Western Reserve University was one of the pioneers in demanding some college work for entrance. In 1898 it announced that, beginning in October, 1901, the completion of the Junior year would be required for entrance. In the eight classes which have entered since 1901, an average of 86 per cent. of the matriculates have either held a bachelor's degree on entering or have obtained it at the end of the first medical year.

In May, 1908, the Faculty unanimously voted to recommend a further advance in entrance requirements to the point of requiring a degree for unconditional entrance, but to admit conditionally a man who had completed the Junior year in a standard college, (conditioned on the degree being granted by the college from which he had come before his entering the Junior year in this Medical Department). In November, 1908, this vote was unanimously reaffirmed, and on December 17th, 1908, the Board of Trustees of Western Reserve University voted that beginning with the academic year 1910-11 (i. e., in October, 1910), the following requirements for entrance to the Medical Department of Western Reserve University shall be in force :

I. TIME REQUIREMENT.

1. The requirement for *unconditional* entrance to the Medical Department of Western Reserve University shall be graduation from an approved college or scientific school granting the degree of A. B., B. S., Ph. B., Litt. B., (or equivalent), following the completion of a course of at least three collegiate years, and including all the subject requirements enumerated under II.

2. *Conditional* entrance will be granted upon the completion of the work of the Junior year in the course of an approved college or scientific school, enforcing a four year course, leading to the degree of A. B., B. S., Ph. B., Litt. B., (or equivalent degree), including the subjects requirements enumerated under II, conditioned upon the student obtaining a baccalaureate degree before he enters the third year in the Medical Department of Western Reserve University.

3. Students who have obtained their academic training otherwise than in institutions conferring the above degrees (for instance, at foreign institutions of collegiate standing), may be admitted on presenting evidence, by acceptable credentials, or by examination, showing that their education is fully equivalent to that implied by a degree from an approved college or scientific school, including the subjects enumerated under II.

II. SUBJECT REQUIREMENTS.

All candidates for admission under I, must show by examinations, or by acceptable credentials, that they possess such knowledge of Inorganic Chemistry, Physics, Biology and Latin, as may be obtained by satisfactory completion of the following courses :

A. Inorganic Chemistry, including Qualitative Analysis, as represented by a course containing at least five actual hours per week through one collegiate year, of which at least one-third shall be laboratory work.

B. Physics as represented by a course of at least three actual hours per week for one-half collegiate year, of which at least one-third shall be laboratory work.

C. Biology (Botany or Zoology or a combination of these), as represented by a course of at least three actual hours per week for one-half collegiate year, of which at least one-third shall be laboratory work.

D. Latin of at least one year's work, as represented by Latin grammar and the reading of four books of Caesar, or equivalent.

Conditional entrance, however, may be granted to a student deficient in all of one of the requirements A, B, C and D, or in part of any two of them; but all such conditions shall be removed before the student shall be allowed to enter the second year class as a regular student.

The Faculty of the Medical Department of Western Reserve University, therefore, gives notice that beginning in October, 1910, the foregoing requirements will be in force.

B. L. MILLIKIN, *Dean*.

F. C. WAITE, *Secretary*.

CLEVELAND, OHIO.

December 18, 1908.

At the present time the following medical colleges only have in force requirements for entrance equal to that of Western Reserve. In each case certain specific subject requirements are also enforced:

JOHN HOPKINS MEDICAL SCHOOL, Degree.

HARVARD MEDICAL SCHOOL, Degree (with exceptions by special Faculty vote).

CORNELL MEDICAL SCHOOL, Degree (or Seniors in absentia and others who know by examination that they are able "to profit by the instruction.")

MEDICAL DEPARTMENT, WESTERN
RESERVE UNIVERSITY,

Completion of Junior year in standard college.

ETIOLOGY AND TREATMENT OF NEURALGIA FROM A CLINICAL STANDPOINT.

John S. Moreman, M. D., in writing under the above title says: In general terms, I may say, neuralgia is the outgrowth of any disease process which tends to diminish the vital forces, and to deprive the tissues of an adequate supply of nourishment, or such nourishment as is necessary to keep the tissues adequately in repair. When the tissues are inadequately nourished, their vigor and power of resistance is lost, and the establishment of neuralgia may supervene at any time. We may expect to see neuralgia proceed from a lowered physical power incident upon constitutional syphilis and also upon exposure to malarial infection. In fact, malarial influence is a most potent factor in the production of neuralgia.

The treatment of neuralgia comprehends local applications of various kinds, the administration of remedies for the removal

of the cause, remedies for the relief of the pain, and the application of certain surgical measures looking toward the removal of tumors, or any other growth upon which the neuralgia may depend. I employ opium now only when the pain is so intense that death is imminent from its effects. Opium and its alkaloids are supplanted now in my hands by antikamnia tablets which relieve speedily and carry no disagreeable after effects. When malaria is the cause we will have to depend on quinine, which we can give in combination with antikamnia in the form of antikamnia and quinine tablets, each tablet containing $2\frac{1}{2}$ grains antikamnia and $2\frac{1}{2}$ grains sulph. quinine.

THE SUTURE IN SURGERY.

The history of the ligature and the suture is, in a measure, says H. O. Marcy, Boston (*Journal American Medical Association*, January 16th), the exponent of the history of surgery. He reviews the use of the ligature and suture from the earliest period; the work of Celsus and Galen, of Ambrose Pare, Hunter's introduction of the ligature for aneurism, the use of various materials for ligatures by Dr. Physick in this country, and gives considerable space to the record of Dr. Horatio Gates Jameson, whose studies, in some measure, paralleled and antedated those of Lister. The early difficulties from sepsis are noticed, and the consequent neglect of the animal ligature. The monumental work of Lord Lister is, of course, duly appreciated, and the author comes to the use of buried sutures, in which he claims the priority, and his search for suitable material. The defects of catgut led him to seek for a material in which the fibers ran straight, and his finding of such fibers in the tale of the opossum led him to examine other marsupials and to the discovery of the kangaroo suture. The relative merits of other materials are discussed and their disadvantages shown. Marcy criticises the use of the interrupted suture, and thinks we could take a lesson from the tailor and seamstress in this particular. He commends to every aseptic surgeon familiarization with the methods of wound closure by means of various absorbable sutures, preferably tendon, and predicts not only that they will be generally adopted, but that as an important adjunct they will hold the first place in the technic of modern aseptic wound treatment.

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Description.—Glyco-Thymoline is a deep claret colored fluid with the taste and odor of thymol and eucalyptol.

Formula.—This preparation contains benzo-salicylate of soda, methyl salicylate from *Betula Lenta*, eucalyptol, thymol, *pini pumilionis*, glycerine and solvents. The alcoholic content is 4 per cent.

Action.—A solution composed of Glyco-Thymoline one part, water three parts, approximates the alkalinity and salinity of the human blood, thus harmonizing with the secretions of tissues treated. When applied slightly warmed to the mucous membranes of the nose and throat it is soothing, solvent, mildly antiseptic, exosmotic and anesthetic. It promotes aseptic conditions and favors the restoration of normal functions of the mucous membrane. Internally Glyco-Thymoline is antacid, carminative, and anti-fermentative.

Uses.—This preparation is recommended in the treatment of all catarrhal diseases of the mucous membrane, particularly of the upper respiratory, utero-vaginal and rectal tracts, as a solvent, soothing, antiseptic and alkaline wash. Internally it has

been successfully employed to overcome gastric hyperacidity, gastro-intestinal fermentation, summer diarrhea of infants, etc. In obstetrical and gynecologic practice it has also proven useful. Its mild, non-irritating properties will suggest its use whenever and wherever an alkaline antiseptic solution is desired. In dentistry it has also been extensively employed.

Dosage.—*Externally*—Glyco-Thymoline may be used in solutions ranging from 10% to full strength. *Internally*—It may be used one-fourth to two teaspoonfuls in water as indicated.

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L. Vernon Briggs, M. D., Boston, Mass., Boston Med. and Surg. Jour., April 19, April 26, May 3, 1908.

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Manufacturers.—The Kress & Owen Co., New York City.

FORESTS TO MAKE MATCHES.


The American people use up the enormous total of 700,000, 000,000 matches a year, but a statement of the number of cubic feet of wood actually converted into matches conveys a very indefinite idea of the number of trees required for the industry. It is the general belief that matches are the by-product of planing mills and other woodworking factories, but as a matter of fact the best grade of two-inch lumber is used for matches, while sashes, doors and blinds are the by-products of the match timber saw mills. In a single year the manufacturers cut 225,000,000 feet (board measure) of pine in the Great Lakes region; and one of the 150-odd factories used up 200,000 feet of yellow pine logs every day. The deduction is that in common with other industries of the United States depending upon existing forests the matchmakers are within sight of a shortage in the wood supply. When the present timber holdings have been deleted they, of course, cannot be duplicated in a generation, and the people of this country may have to get along with fewer than twenty-five or thirty matches a day each, as at present.—*Technical World.*

METHODS AND RESULTS OF DRAINAGE IN TWENTY-TWO CASES OF ABSCESS OF THE APPENDIX.

R. M. Harbin, of Rome, Ga., tells us that statistics of recoveries from diffuse peritonitis are valueless unless the time of the perforation is mentioned. In the absence of proper facilities it is better to use the Oschner rationale and Fowler position, pending consultation. The propriety of waiting for the walling-off process of the abscess is doubtful. Deferred operations give the patient the time to undergo a sort of autoinoculation with bacterial vaccines. The uncertain course of peritonitis argues for immediate operation. Infections low in the right iliac fossa can be trusted to nature. Short incisions and few manipulations are best. The same gauze should not be left in the wound for more than four or five days. The right lateral and ventral positions are valuable in supplementing drainage. This should both give exit for pus and provoke a reverse current of serum out of the wound. Intermittent injection of normal salt solution causes greater absorption by the rectum than does installation. In well defined abscesses mortality may reach four or five per cent.—*Medical Record*, January 9th, 1909.

The presence of the tubercle bacillus in the urine is one of the most definite signs of urinary tuberculosis.

—BYRON ROBINSON.



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Original Communications.

A SUGGESTION CONCERNING THE INCREASED LONGEVITY OF LIFE INSURANCE POLICYHOLDERS.

ADDRESS BY BURNSIDE FOSTER, M. D.,
ST. PAUL, MINN.

*Chief Medical Examiner of the New England Mutual Life Insurance Company,
for Minnesota, and Editor of the St. Paul (Minn). Medical Journal, at
the regular bi monthly meeting of the Association of Life In-
surance Presidents, New York City, on the after-
noon of Friday, April 2nd.*

MODERN medicine has, above all, two chief aims—the prevention of disease and the recognition of its earliest signs in the individual. In both of these aims the business of life insurance has an immense interest, since the nearer we approach to their accomplishment the more we add to human longevity. I was much interested in reading the address of Prof. Irving Fisher, delivered before this body at its meeting in February last, on the Economic Aspect of Lengthening Human Life, and his plea

for concerted action on the part of life insurance companies to lend their financial aid to the cause of preventive medicine, is one which meets with my hearty sympathy and approval. I do not know when or where the idea of enlisting the life insurance companies in the cause of preventive medicine originated, but it has been in my own mind for a good many years. In the course of an address delivered in 1902 before the Minnesota State Sanitary Association and published in *American Medicine*, Vol. V, Nos. 11 and 12, (1903), I alluded to it in the following sentences which I should like to quote at this time, to prove that the idea is not a new one:

"The business which more than any other is directly concerned with the health of the people is the life insurance business, and when we consider the enormous amount of capital invested in this business and the enormous numbers of people, including both the insurers and insured, who are interested in it, it would seem that life insurance companies might form a powerful combination which would be capable of accomplishing a vast amount of good in this direction. Fire insurance companies have found the support of salvage corps as adjuncts to the regular municipal fire departments to be a very profitable investment. In an analogous but somewhat different way I believe that life insurance companies would find it profitable to use their money and their influence in supporting the work of municipal boards of health, and also, perhaps, in pursuing and maintaining independent investigations of the many problems concerning sanitation which remain yet to be solved.

"The companies pay out annually millions of dollars for death losses which result from preventable diseases. Would it not be profitable from the business point of view alone to spend some of this money in endeavoring to prevent some of these diseases? Of course life insurance companies would be unable, in case they should pursue any such policy as the one suggested, to know just what lives they were saving, and they would of course assist in saving many lives that were not insured. Fire insurance salvage corps assume that all threatened property is insured

and endeavor to protect it all; I believe that the life insurance companies could well afford to do the same.

"If all the life insurance companies would combine and set aside each year a fund to be devoted to a co-operative investigation of some of the problems of preventive medicine an immense amount of good would be accomplished at an expense which would be trifling to each company, and the direct return to the companies would be very large."

Preventive medicine becomes more nearly an exact science all the time, and while its possibilities are far from being realized, this is not because of its own inexactness or shortcomings, but because the people have not yet awakened to the fact that those diseases which cause the greatest number of deaths and the greatest amount of suffering are actually preventable if money enough is spent to prevent them. The only way to enlist all the people actively in the crusade against preventable disease is to present the subject as an economic one, which it surely is, and one which appeals directly to their pocket-books. I am glad that life insurance companies are beginning to be interested in it from this point of view. Its study will prove profitable to them and will afford a most valuable object lesson to the people.

I have another suggestion to make, which I was especially invited to make to you at this meeting by your General Counsel and Manager, and which is distinctly germane to the subject of preventive medicine as well as to the economic conduct of the business of life insurance.

As far as their policy-holders are concerned, life insurance companies have two chief objects in view: First, that every policy-holder shall be physically sound when his policy is issued; and, second, that he shall live as long and pay as many annual premiums as possible. These two conditions are also of great importance to the policy-holders themselves, because a low death-rate means a smaller cost of insurance and also because every one wants to live as long as possible. All life insurance companies are careful, some more than others, to see that their risks are care-

fully selected, and on the whole, I believe that the medical examinations for life insurance in this country are rigorously and honestly made, and that the great majority of accepted applicants are sound at the time their policies are issued. This, of course, is as it should be, but so far as I know no effort is made by any life insurance company to keep in touch with the physical condition of its policy-holders after their policies are issued. Life insurance companies will, of course, admit that anything which would add five or ten more years to the average longevity of their policy-holders, so that they would pay just that many more annual premiums, would be an immensely valuable stroke of business. I believe that this very thing is possible, although, of course, I would not go so far as to state anything definite as to the average increased longevity that might be brought about. There is probably not a physician who has not many times in his experience detected, while examining a patient for some other purpose, the early signs of some beginning organic disease, of which the patient had no suspicion. In such cases the early recognition of the first evidences of the disease has enabled the physician to so order the life of his patient as to prevent the further progress of the disease, if it is a curable one, or to retard its progress and to enable the patient to live much longer than he would have lived had the disease not been detected until later.

Many persons die of kidney disease, of tuberculosis, of cancer, of diabetes, of heart disease, and of other diseases every year, and many millions of dollars are paid by the life insurance companies which have issued policies on the lives of these persons, who were sound when the policies were issued, and who might have lived much longer and paid many more annual premiums if the diseases which caused their deaths had been recognized and properly treated in their early stages. To a medical audience it would not be necessary to go into details in regard to this statement and perhaps to this audience it is not appropriate to do so, but I am sure that you will all understand that, diabetes, for instance, begins very insidiously and is often

present for many months, perhaps years, without symptoms, and its presence is very apt to be first recognized as the result of an examination of the urine, made for some other purpose. You can also readily understand that if diabetes is detected in its very earliest stages and the patient put upon appropriate treatment at once, he will live much longer than if it is allowed to go on unsuspected, until treatment is of little avail.

So, too, the early diagnosis of tuberculosis, of cancer, of heart disease means a better chance for recovery and a longer life for the individual. These are the very diseases which figure most largely in your mortality tables. My contention is that it is perfectly possible to recognize, in many cases, the early signs of these diseases before the individual suspects that any evidence of disease is present, and that life insurance companies would save large amounts of money which they now pay in death losses by inaugurating a plan of systematic re-examination of all their policy-holders at regular intervals, say every five years. This, of course, could not be made compulsory on all policy-holders, but I believe that the great majority, if the reasons for the examination were explained to them, would be very glad to report to the medical examiner at a specified time and submit to the necessary examination.

The expense to the companies would be trivial, and in certain cases where the policy-holder was insured in two or more companies the expense might be easily divided. Indeed, the companies might enter into an agreement for the exchange of information regarding all policy-holders as they now do in regard to rejected or postponed applications, and still further reduce the expense. The details of the plan which I suggest would of course have to be carefully worked out by the companies, but I feel certain that by adopting some such plan as I have in mind, the statistics of life insurance companies would in a few years show a greatly reduced mortality with correspondingly increased profits to the business, and a lessening of the cost of life insurance. The whole tendency of modern medicine is toward the early recognition and the prevention of disease,

and the life insurance company which first makes a practical application of this principle to its business will not only bring about a revolution in the business of life insurance, but will also confer an immense and lasting benefit to the world.

It has been my experience, and other physicians have had the same experience, that there is a constantly increasing number of individuals who are adopting the custom of presenting themselves to physicians at stated intervals, not because they think they are sick, but for the purpose of being examined to ascertain if their organs are sound and their functions being properly performed. This would indicate that the importance of the early recognition of evidences of disease is being recognized. I have several times as the result of such an examination had the experience of detecting the beginning of some chronic disease, unsuspected by the individual, and I am positive that this discovery followed by appropriate advice has added some years to the life of that individual. Surely the regular periodic examination of a large percentage of the immense group of individuals represented by the policy-holders of the life insurance companies of this country, would bring to light many instances of incipient disease which appropriate treatment would either cure or check, and it is equally sure that the average longevity of this group of individuals would be increased. I am also convinced, that, if a carefully worded letter were sent to each policy-holder at stated intervals, say every three or five years, explaining the advantages to them of such an examination and offering it to them without charge, as one of the benefits conferred by their policies, a very large majority of them would avail themselves of the privilege.

Life insurance, the most beneficent and philanthropic of all businesses, and the profession of medicine have for years worked together in the study of many problems having to do with human life. Aside from the humanitarian point of view the business of life insurance has an immense financial interest in the increase of human longevity; and in spending money to aid in the accomplishment of

the aims of preventive medicine, the companies may legitimately charge the amounts thus expended to the regular expense accounts of their business. Medicine is expected to do much and does much in the name of sentiment, charity and philanthropy. Life insurance companies cannot spend the money of their stock-holders or their policy-holders for such purposes, but when sentiment and philanthropy also spell more premiums from policy-holders and hence cheaper insurance, they not only may but must invest in them. I look forward with confidence to the time when preventable diseases will be prevented, and when curable diseases will be recognized in the curable stage and will be cured, and I believe the grandest triumphs of civilization will be the achievements which will result from a realization of the possibilities of preventive medicine. The coming of this will also mark a new era in life insurance. As an additional suggestion I append a draft of a letter which, or some modification of which, would, I feel sure, induce a very large proportion of policy-holders to report for examination at stated intervals.

SUGGESTED LETTER TO POLICY-HOLDERS.

"MY DEAR SIR:—As a policy-holder in this company you are directly interested in the economic conduct of its business, since the amount of your dividends, and hence the cost of your insurance, depends upon the profits earned each year over and above the cost of carrying on the business. You are also, it is presumed, interested in your own individual longevity and would like to live as long as possible. We hope therefore that you will read this letter carefully, and that you will be willing to accede to the request contained in it. It is well known to physicians that very many of the diseases of which people ultimately die, have existed a long time before their symptoms have been noticed by the patient, and that when the patient finally consults a physician, it is often too late to do all that might have been done if the disease had been detected earlier. Many diseases may be checked or cured in their early stages. Many individuals are beginning to realize this, and the

custom of consulting a physician at stated intervals for the purpose of being examined to ascertain the presence or absence of the early signs of disease is growing to be a common one. We have decided to offer our policy-holders, as one of the benefits of their policy, an opportunity to receive such an examination at stated intervals without charge to them. You have now been a policy-holder in this company for —— years and we should be glad to know that you are in the same good physical condition at the present time as you were at the time your policy was issued; if on the other hand you have at the present time any evidence of the beginning of any disease it is for your interest as well as for our's that it should be detected in order that you may put yourself in the way of being cured if possible. We should be very glad if you would present yourself to our examiner, Dr. —— between the —— and the —— of this month for examination, taking the enclosed blank with you.

“There will be no expense attached to this examination, and of course all information in regard to it will be held as confidential between the examiner and the company. There is no obligation on your part to have this examination made, and it has of course no bearing on the status of your policy, but since the interests of all our policy-holders are affected by having as large a number of them periodically examined as possible, we hope that you will accede to our request.

“Yours very truly, ——.”

It occurs to me that the directors of life insurance companies in considering, if they do consider, the suggestion I have made to-day, may fairly look at it from another point of view, besides that of adding to the longevity of their policy-holders. The problems concerning the prevention of disease, concerning the prolongation of life and concerning public and private hygiene are being talked about, and thought about and studied by the people, at the present time, more intelligently and more earnestly than ever before in the history of the world; this is undoubtedly the case. I believe it is also true, that events

of the last few years, have shaken to some extent the faith of the people in life insurance as a business. Life insurance as an institution, as a protection to the family, stands as firmly as ever, but unfavorable public sentiment has been aroused by the publicity which has been given to some of the business methods which have been practiced by some of the life insurance companies. Would it not be a good thing for the business of life insurance, if the public were to learn that the companies, besides offering a protection to the family, after the death of the bread-winner, were earnestly and seriously engaged in a concerted effort to protect the bread-winner during his life? I believe it would, and I believe that if the business of life insurance and the profession of medicine were to join hands on the platform of preventive medicine, they would both earn the gratitude of humanity. The financial regards to the life insurance companies would also be great; the people would share largely in the financial benefits, since the cost of their insurance would be lessened, and the medical profession while not profiting financially—indeed, preventive medicine is directly against the financial interests of the medical profession—would take pride in its share of the added benefits to mankind. When preventive medicine becomes actually preventive, a large number of diseases, notably the communicable diseases will become practically extinct, just as the bubo plague and cholera are now practically extinct in most highly civilized communities. It will be necessary, however, in order to keep the sanitary defenses of a nation properly manned to have at all times a large standing sanitary army of medical men who will be servants of the state rather than servants of the individual. This is the ideal future of the medical profession.

The possibilities of properly directed scientific effort in the control of disease in animals have been amply demonstrated by the United States Government in the work that has been done during the last twenty-five years by the department of Agriculture in protecting hogs, cattle and domestic fowls from the many pests which formerly were so fatal to these animals, and the millions expended by the

Government in this work have been returned many times in the form of increased profits to the farmers and stock raisers, and have added immensely to our national prosperity. The problems of the control of the diseases of mankind are not very different from the problems of the control of the diseases of beasts. Are not its citizens at least as great an asset to a nation as its hogs? The government undertook the matter of protecting the lives of its hogs and cattle because the people demanded it. When the people demand it, it will also undertake to protect the lives of its citizens. It is as simple a problem to drive typhoid fever out of the United States as it was to banish yellow fever from Havana and from Panama. The medical profession has for years been pleading for governmental aid in their efforts to prevent preventable disease. It has pleaded to deaf ears. Let the immense influences of the life insurance companies be brought to bear upon the Government in this matter, and those ears will be deaf no longer. Whether, gentleman, the directors of the companies represented in this Association see any merit in any definite suggestion I have made to you to-day, or not, is a small matter, compared with the immense educational value to the people, of witnessing an active effort on the part of the great institutions which you represent to prevent preventable disease and to add to human longevity.

AN ADDRESS*

BY FOUCHE WARREN SAMUEL, M. D.,
LOUISVILLE, KY.

MR. PRESIDENT AND FELLOW-MEMBERS OF THE BARTHOLOMEW MEDICAL SOCIETY:—My first and most pleasant duty is to thank you for the invitation to address you this evening. Therefore, I wish you to accept my thanks for the compliment and to ask your forbearance in the many shortcomings that I may attain in the effort to interest you, particularly in the subject under discussion.

The caption of my paper is "The Study of the Rela-

* Read before the Bartholomew County Medical Society, Columbus, Ind., March 9, 1909.

tionship Existing Between Diseases of the Gall-Bladder, Especially Cholelithiasis and Pancreatic Disorders." The close relation between diseases of the pancreas and gall-stone disease from an etiological standpoint has become so patent in the operative experience of surgeons it may be regarded now as constituting over eighty per cent. of the cases coming under observation. If we consider the anatomic condition and the development of the gall passages together with that of the pancreas the mechanical reasons will be at once plain. When the biliary passages are the seat of cholelithiasis producing obstruction of the bile, it is immediately delivered into the duct of the pancreas and by stasis determines by its action and the presence of infection almost universally a chronic nutritional change in the pancreas. It has been shown that in sixty per cent. or more of the human subjects, that the terminal third of the common bile duct is imbedded in pancreatic tissue; therefore, it is evident that structural changes will more than likely occur in the pancreas when interference takes place with the delivery of liver excretion, and thereby exposing the duct of Wirsung, and through it the pancreas to infection. It is by virtue of the fact, therefore, that this terminal anatomic arrangement of the ducts that diseases of the pancreas have the etiology and constituting what has been termed the triangle of pancreatic inflammation, that is, the head of the pancreas which lies between the duodenum on the right, and ducts of Santorini and of Wirsung below.

The evidence which has accumulated in regard to catarrhal jaundice, especially in the epidemic form, is probably of pancreatic origin due to disturbance in this gland, and is similar to inflammation of the parotid gland. In the acute form of pancreatic inflammation probably the most interesting feature is fat necrosis. Mayo, and others have attributed this condition to the possibility of a ferment in the pancreatic juice becoming active, or from the bile in its association with the duodenal mucosa. Laceration of the pancreas has occurred in my own hands without result, and the Mayos positively state that injury to this

organ has not been followed by necrosis, and that it has largely been exaggerated in the past as to its dangers and its fatality. The greatest interest to us, however, comes from the association of biliary lithiasis with the chronic form of interstitial pancreatitis which has for its cardinal factors, infection, mild in character, duct obstruction, intermittent or permanent with non-drainage of the biliary passages, and constitutes possibly the sole etiologic factor, occurring usually in two forms, and fortunately the most common is that associated with gall-stones, the so-called interlobular.

The other form known as the interacinar where the pancreas feels smooth and tough, in contra distinction to the other form where it is rough and nodular. In this form, however, we find most likely an associated glycosuria on account of the involvement of the island Langerhans. In the interlobular type, progression may lead, however, to an invasion of these areas and a secondary diabetes may result. It is admitted and proven beyond cavil, that chronic interstitial pancreatitis may last for years and without symptoms leading to appreciation of difference from the original disease, but if its existence is constantly borne in mind and careful research reveals its presence, surgical intervention is indicated. While jaundice is one of its chief symptoms, and its existence is proverbial, the cardinal features will be noted in extreme emaciation and cutaneous pigmentation, and is more marked than when the common duct is obstructed uncomplicated. In these cases a history of past gall-stone attacks can usually be elicited and a possibility of detecting an enlarged and tender pancreas on account of the emaciation can be at times be done as a hard mass across the upper abdomen. Careful observation of the alimentary excreta will reveal large light colored, and greasy stools in appearance with absence of jaundice. Such signs are indicative of pancreatitis. Furthermore it is said that in the urine of such cases Cammidge crystals will be found. It is in such cases, possibly from an operative standpoint, that the greatest like-

lihood, a tendency to hemorrhage exists as a post-operative complication.

Aside from this general statement, it might be well for us now to separately consider the symptoms and course of acute pancreatitis as well as that of chronic—the one that concerns us mostly. You will recall the fact that the pancreas is the great salivary gland of the abdomen and lies most perfectly protected, and that its great natural defenses, due to its situation, has one mechanical defect, and that it is the association with the main duct of the liver. When attacked with an acute inflammation, its onset is sudden, with an agonizing pain referred to the upper abdomen, followed with great prostration, a very rapid pulse, and an early elevation of temperature, nausea, vomiting, and rapid tympany. This syndrome of symptoms frequently is mis-interpreted for intestinal obstruction. The patients are usually at, or beyond mid-life, fat and have frequently alcoholic histories. On opening the abdomen free peritoneal fluid will be noticed and pea-like areas of fat necrosis will be noticed, characteristic yellow spots. The pancreas is demonstratively enlarged and gall-stones will be found co existing. Removal of gall-stone and free drainage through the gall-bladder will save life in these cases. In the chronic form the clinical course is quite different. As I have stated, the antecedent history of these cases is most often indigestion and mild gall-stone attacks, and if a search is made the condition will be revealed. In these cases, if the common duct stone should exist, the law of Courvoisier holds good, and the gall-bladder will be found contracted if distended, and if there is jaundice it would rather indicate cancer in many cases.

As indicated previously in my paper, such subjects will be found thin. The alimentary excreta give much important evidence, and a microscopical examination should show undigested food and fat. In the absence of jaundice, the bile which unmixed with pancreatic food gives only a light yellow color to the excreta, but does not stain the great quantities of fat past off, so that we have the characteristic frequent light colored greasy excreta in these

chronic cases of pancreatitis. The greatest factor in these patients arises when we begin to sum up the therapeutics at our command. It has been proven beyond all reasonable doubt that these subjects have received so little benefit from medicinal treatment that they have at least been catalogued as surgical in every aspect. It is hardly necessary for me to more than mention that in the acute variety with the overwhelming toxic state, and every minute our patient likely to be beyond all hope, that immediate resort to surgery is the only recourse. In chronic cases the treatment is surgical and the results are very gratifying. The necessity of clearing out all the calculi, especially from the common duct, cannot be emphasized too strongly. Stones are especially liable to be lodged under the overhanging head of the enlarged pancreas, so that they may be easily overlooked, as we have found by experience. As a matter of fact, neither probe nor scope can be depended upon to "feel" a gall-stone in this situation, and we should never rest satisfied until we have freely opened the common duct, and, if possible, inserted a finger into its lumen, making sure that no gall-stone has escaped detection. In the same way in the majority of cases, the hepatic duct and the entrance to its right and left primary divisions can be searched for calculi having their origin in the gall-bladder, which have been crowded back into the hepatic ducts.

After clearing the ducts of stones, a large malleable probe should be passed through the common duct into the duodenum, so as to secure good, thorough dilatation to permit the escape of any hepatic duct stones which may come down later. Hepatic duct stones, as a rule, are not large, and if free drainage into the duodenum exists, even for a few days, they may find their way out; otherwise, they might be retained in the common duct, necessitating secondary operations, as has occurred in reported cases. Eloesser has recommended that the third portion of the common duct be stretched to loosen up the pancreatic adhesions. Robson points out that free drainage for the bile is essential, and in most cases, this alone seems to be suffi-

cient for cure. Cholecystostomy or cholecystenterostomy are the indicated procedures. The later operation has the advantage of equally free drainage, and at the same time maintaining the influence of the bile in intestinal digestion. In my experience, when the common duct contained stones, the removal of them with temporary external drainage has resulted in the symptomatic cure of the pancreatitis. If there are no stones in the common duct or gall-bladder, other things being equal, I have preferred cholecystoduodenostomy. Robson found that in sixty per cent. of his cases of stone in the common duct, pancreatitis existed. This difference among operators depends somewhat on the personal equation of the surgeon, as on the operating table the diagnosis is made from the "feel" and character of the enlarged gland. I have only classified as chronic pancreatitis those cases in which the pancreas was so definitely enlarged that there could be no possible doubt but that the disease actually existed. Undoubted by a more careful examination of the urine and stool, Mr. Robson and Mr. Cammidge have been able to make the diagnosis in the cases that have been heretofore overlooked by other surgeons.

OBSERVATIONS ON THE USE OF STOCK BACTERIAL VACCINES WITHOUT OPSONIC INDICES.

BY LEONARD K. HIRSHBERG, A. B., M. D.,
(JOHNS HOPKINS).

*Recently Instructor in Bacteriology, College of Physicians and Surgeons,
Sometime Externe, Johns Hopkins Hospital.*

BALTIMORE, MARYLAND.

THERE is considerable debate as to which are the more valuable, stock or autogenous vaccines, and it is also a question whether opsonic indices are necessary for the proper administration of bacterial vaccines. This is a most important question, for should it be found necessary to use autogenous vaccines, the inoculations of which must be controlled by the opsonic index, it will defer for a long time the solution of the problem of opsonotherapy. Should

such be the case it would limit the treatment of cases to those physicians who are specially trained in the preparation of bacterial vaccines as well as in determining opsonic indices. They must also have the necessary laboratory facilities for doing this kind of work. If it should be proved by adequate clinical experimentation that it is sufficient to use polyvalent stock vaccines and to regulate their dosage by the clinical findings alone, then nearly all physicians could make use of the treatment and a much greater opportunity for testing the value of opsonotherapy would be thus provided. As the contribution to literature on this particular phase of the subject, I desire to report eleven cases in which I have used bacterial vaccines without any reference to the opsonic index.

From the latest discovery in Dr. Hiss' laboratory at Columbia, it would seem that Wright's neglect of the activity of phagocytes in a given infection is, by no means, the small matter he seems to consider it.

In, fact the observation that the "swallowing power" of a phagocyte decreases as the infection progresses, and gradually becomes exalted during convalescence, vitiates many of Sir Almuth E. Wright's criteria for finding the opsonic index.

The clinical manifestations therefore were the indices used in this series of cases to indicate the inoculation of the specific (not always autogenous) vaccines.

STAPHYLOCOCCUS INFECTIONS.

CASE 1.—Furunculosis, L. G. Female, age 16. Series of furuncles on neck and face. Full blooded. Has had these several years. Antiseptic treatment used as before without avail. April 10, I injected 500,000,000 Staphylococcus, Aureus et albus. April 18, I injected 500,000,000 Staphylococcus, Aureus et albus. Improvement noticed after first injection and rapid and complete recovery after second. Her skin has been perfectly clear since.

CASE 2.—Furunculosis, S. D. Male, age 19. Has had a series of furuncles and carbuncles on neck for eight months. Four doctors (a family physician, dermatologist,

surgeon and a quack) treated him, as he stated "one as bad as the other." March 3, I gave him 500,000,000 Staph. Aureus and albus, and usual antiseptic treatment. He did not return for a month, said he had been perfectly free from trouble until three days ago when one boil appeared in axilla. Another 500,000,000 of mixed cocci were given with positive orders to return weekly. He has had no further trouble.

CASE 3.—Pustular Acne, S. C. Female, age 21. Acne pustules all over face for four years. Mixed injection 500,000,000 of Staph. Aureus and albus. On April 13-18, and 25, these were repeated. All the pustules cleared up and have not returned. The acne nodules and comedones remain. NOTE—Stock vaccines were used in cases one and two. An autogenous vaccine in case three.

CASES 4, 5, 6, 7 and 8, 9, 10, were much alike. Stock vaccines were used in all but case 7. This one had two inoculations and appeared to do as well as others.

CASE 10.—Furunculosis, S. H. Male, age 41. Large healthy, full blooded individual who lives well. Nothing unusual in urine. Twice before in past three years has suffered from carbuncles and boils, which varied from ten to thirty at a time and persisted for six or seven months at a time. This is the third attack and they have lasted for two months already. Calomel dusting powder was given. Low diet advised and inoculation of 500,000,000 mixed Aureus and albus made. May 3-7, another injection was given. Following the second dose furunculosis began clearing up. This patient was then absolutely free of any papule, pustule, furuncle or abscess for three months. On August 20, he returned with one large pustule at apex of left eye-brow. Another injection of 500,000,000 mixed Aureus and albus was given. He has been clear ever since.

CASE 11.—Furunculosis, W. D. Male, age 47. Has had one large carbuncle after another on back of neck for fifteen months. Has been treated by every popular dermatologist for miles around without lasting benefit, for as fast as one carbuncle disappears another makes its appearance. When he presented himself for treatment there

was a very large carbuncle on neck. On June 15, 500,000 000 mixed Aureus, albus and citreus were injected. Stock vaccines. Some improvement was noted. On June 21, another 500,000,000 were injected. The carbuncle which was at least 15 cm. in diameter before first injection cleared up rapidly, and he has had no return for past five months. Two injections have been given since, at intervals of eight weeks, merely as a precautionary measure.

My thanks are due Dr. J. William Lord, chief of the Clinic of Cutaneous Diseases at the Johns Hopkins Hospital, who was kind enough to place some of these cases at my disposal. My thanks are also due, for cases referred to me by Dr. Henry Flood, Dr. Henry Horton and Dr. Louis Sherman. And to the Department of Experimental Medicine, Parke, Davis & Company, which donated the Stock Vaccine used in these Clinical experiments.

The still much mooted matter, whether a stock or autogenous vaccine should be injected, cannot be finally disposed of by these cases. The number and variety of inoculations are not ten thousand, therefore any expression of opinion which I may advance may be easily overthrown.

It strikes me that the individual has already fought its fight against the particular strain of (autogenous) organisms. He probably calls out a new reserve, if a stock vaccine is used. This may be due to the rule that stock vaccines are of six or more virulent varieties of a particular species.

Another explanation suggested is, the fact that the autogenous organism is necessarily attenuated in making your own vaccine. Every second-year medical student knows that most bacteria become attenuated in proportion to its successive transplantations upon artificial culture media.

SURGICAL TUBERCULOSIS.*

BY JOHN R. WATHEN, A. B., M. D.,

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THERE is at present no one disease attracting more attention from the physician, the surgeon, or even the layman than that of tuberculosis, and as this Society is composed of men devoting themselves to many departments of medicine, the writer has selected a subject for discussion which, while primarily one of operative importance, has nevertheless many phases in diagnosis and treatment in common with tuberculosis in general.

With the many advances in our knowledge of tuberculosis surgery has kept pace, and we are now diagnosing our cases earlier, also with greater accuracy and likewise obtaining results in treatment, little expected in former times.

In those manifestations of tuberculosis which concern the surgeon, as in the other varieties, an early diagnosis is the key to the situation. With the use of the new eye and skin tests not overlooking the X-ray in bone lesions, we are enabled to reach a very early diagnosis, which in former years was only possible after gross pathological changes had taken place, thus preventing an early cure and a complete restoration of function.

These special tests I will not describe as many of the members are more familiar with their employment than the writer. We are indebted to Beek, of Chicago, for a very ingenious method of diagnosis and treatment of fistulous tracts, tuberculosis sinuses and abscess cavities.

This method consists of the injection into the tubercular tracts of a paste of bismuth subnitrate and vaselin. Then the patient is radiographed and a complete map of the infected area is obtained for operative consideration. Beek, in commenting on his method says: "The injection of liquified bismuth vaselin paste is not only valuable for diagnostic purposes, but for curative purposes as well.

* Read before the Louisville Clinical Society, Feb. 2, 1909

The first case injected 'for diagnostic purposes led us to this important discovery.'

Ochsner, and many other prominent surgeons, have reported good results from this method after a rather extensive experience. Concerning this treatment, which of late has attracted so much attention, Beck has drawn the following conclusions:

"1.—A successful surgical operation of fistulous tracts depends principally upon the exact knowledge of the extent and direction of the sinuses before operation is undertaken.

2.—Radiographs taken after the fistulæ have been injected with bismuth paste show distinctly the extent and direction of the fistulous tract.

3.—Skiagraphy of all fistulous tracts should be taken before an operation is decided upon.

4.—Fistulous tracts, tubercular sinuses, or abscess cavities, including empyema can be cured by injection of bismuth paste.

5.—Cavities or fistulæ should be as clean and as dry as possible before the injection of bismuth paste.

6.—The bismuth paste, when mixed with wax or soft paraffin and injected in liquid state, solidifies in the fistula and serves as a framework for new connective tissue. The paste is absorbed and the fistula obliterated.

7.—Bismuth paste injection will not heal out sinuses where sequestra are present. Same must be removed before injection.

8.—The bismuth paste injections are painless and produce no unpleasant or dangerous symptoms."

A. J. Ochsner has said concerning Beck method: "I have employed this method in about twenty cases of old tuberculous sinuses. The possibility of application of bismuth paste in these cases is so great and the proportion of satisfactory results from it so large, that I look on it, in appropriate cases, as the most important advance in surgery that we have had during the past two years. I have applied the mixture in practically every part of the body, with the exception of some special parts, like the nose. I

have had patients with old empyemas communicating with a bronchus, operated and re-operated on many times, and within six or eight weeks healing has taken place, and has been permanent, by the use of the bismuth mixture. I had a case of fistula leading down to the pancreas from a gastrectomy, which persisted in discharging, and which healed after a few weeks following injection of the bismuth mixture. I have had cases of prostatectomy, with persistent fistulas, that were treated with the bismuth mixture with satisfactory results. I have had two cases of tuberculous sinuses leading down to tuberculous kidneys, in which a cure was effected. One of the patients has gained forty pounds since the first injection."

J. Rawson Pennington: "Judging from apparent results in treating nineteen patients with rectal fistula with this paste, I consider it a valuable discovery. In fourteen of the nineteen patients whom I have treated the discharge has ceased and the fistulas are closed, and, to the best of my knowledge, the patients are well. In one I passed a probe through the external opening, which was near the anus, upward and backward between the rectum and sacrum to a point about opposite the promontory of that bone. I question whether any surgical operation looking to a complete division of that tract would have been justifiable. Moreover, the man also had an abscess in his left groin which probably communicated with this fistula, though it was not demonstrated. About three ounces of the paste were injected into the fistula at one sitting. It is now closed, and the patient has had no discharge from it for more than two weeks."

Another method of diagnosis and likewise of treatment which has of late attracted much attention is the opsonic index of Wright. With this method we are able to determine the resisting power of our patient to tubercular infection, and we have learned how to increase the resisting power of the individual.

Pain and secondary infection are said to be the two factors which tend to reduce the opsonic index of our tubercular patient more than anything else. The pain can

generally be reduced to a minimum without opiates, by the proper immobilizing of the parts if they are bones in plaster of paris, and the infection can usually be guarded against with our modern methods of surgery.

The writer will not discuss this new opsonic index method as so much has of late been written upon the subject. To Bier, of Germany, we are indebted for a method of treatment which promises much in surgical tuberculosis—the passive hyperemia. With mechanical means Bier maintains the passive hyperemia by compression of the veins coming from the parts, and in others by means of special cupping—vessels or vacuum jars. The treatment is based upon sound principles and deserves a wider use than it has been given in our country. While the sanitarium treatment of pulmonary tuberculosis has been acknowledged the idea method for the best results, most surgeons in the past and even many at present have not advocated the same for surgical cases.

If the writer is not mistaken Germany has paid more attention to the sanatorium treatment of surgical tuberculosis, and our own country has but few and these usually seaside sanatoria, as it is believed to be the best method of dealing with tuberculosis in children, although it is by no means certain that such sanatoria located in the inland would not give as good results. It is undoubtedly a fact that surgical tuberculosis is much more common, than is generally supposed by most operators. Professor Martin, of Berlin, in a recent paper read in our country stated that genital tuberculosis was present in 24.6 per cent. of the seriously affected adnexa removed at his gynecological clinic.

In these cases repeated microscopic examinations were made and the tubercule bacillus demonstrated positively. By the early diagnosis and eradication of the local diseased parts and the proper sanatorium or other similiar general dietitic and hygenic treatment, we may in the future hope for better success in combating surgical tuberculosis. In the past we were satisfied to cure joint tuberculosis with a limb in a good position, but with the af-

feeted joint permanently ankylosed. With the newer methods of early diagnosis and better therapeutic agents, we should and will obtain anatomic and functional cures.

DISCUSSION.*

DR. G. W. F. REMBERT: Dr. Wathen's paper has been both interesting and instructive. I have been much interested in the favorable reports that have been made regarding the use of bismuth paste, which seems to have taken to a large extent, the place of iodoform plumbum, which was so advocated by Mosetig-Moorhof and from which he and several others claimed such good results. It would appear that the applicability of bismuth paste is nearly altogether to sinuses, and the question arises as to the best form of treatment of those tubercular conditions of a surgical nature in which no sinus is present. Probably the best results that have been obtained from the use of tuberculin, therapeutically, have been in cases of surgical tuberculosis. It is believed by many that surgical forms of tuberculosis are caused chiefly, if not entirely, by the bovine type of tubercle bacillus, and there is also the belief that a strong antagonism exists between the bovine and human types of the bacilli and of their products. Accordingly, the form of tuberculin principally used to combat the surgical tuberculosis cases of probable bovine tubercle bacillus cause is the bacillen emulsion of Koch (which is an emulsion of the human type tubercle bacilli). The average dose given hypodermically is about one-third thousandth of a milligramme, and this dose is repeated every ten days to two weeks, according to the individual case. Many observers have reported excellent results obtained from this treatment.

There are divers opinions regarding the possible good that might be derived from the opsonic index, of which Dr. Wathen has just spoken. I had the opportunity to observe at the Saranac Lake Laboratory the work of Drs. Baldwin, Kinghorn, and Twitchell. At first they were quite optimistic as to the possibilities of the opsonic index, but after further work they found themselves unable to substantiate the results as claimed by A. E. Wright, London. It is impossible to eliminate one factor that is always present—that of personal equation. One counter would consider certain leucocytes as eligible for counting, while another counter, of equal ability, would differ therefrom. For instance, if one leucocyte which contained from eight to ten bac-

* Stenographically reported for this journal by H. S. Smith, Louisville, Ky.

teria was found one counter would say: "This is a faulty clump and should not be counted, etc.," while another counter would contend that it should be considered and counted. Inasmuch as it has been impossible up to this time to fix any clear-cut and inflexible rules for counting it is not unusual to receive reports of wide variation from different counters on the same specimen.

At the meeting of the American Association of Pathologists in Washington some two years ago, I listened to an interesting discussion of this question by Llewellys Barker. At the same time Potter, Walker and Ditman presented the varying results obtained by different laboratory workers with the same specimen in various parts of this country. A mixture had been made of the required serum, leucocytes and bacteria; an equal quantity was then put into about seventeen tubes and sealed (under identical conditions), and these tubes were sent to various laboratories throughout the country, with the instruction (allowing for the difference of the time in transit) that the tubes should be opened and counted at a specified time. The results reported by the men to whom these tubes were sent—all of the men fully competent to make a count varied from .5 to 1.8. In view of such variations, how can much reliance be placed in this method of resistance, determination or corroboration of diagnosis? Nevertheless, it is the hope that the methods of counting will some day be perfected, and that the opsonic index will prove of value. Certainly there is no questioning the fact that one who is not doing laboratory work is unable to obtain reliable results, and to possess the necessary technic requires a greater amount of time and work than the majority of clinicians are able to give.

DR. WM. H. WATHEN: The paper read at the last meeting and discussed this evening and the paper read this evening, bring before us nearly all the phases of that terrible disease, tuberculosis, and shows us that much can be done to-day that was not done yesterday, and probably much will be done to-morrow that cannot be done to-day. I have given the opsonic index theory some study and I fully agree with Dr. Rembert that, outside of its use by a few thoroughly trained laboratory men, it is not of much practical value, and even the results as reported by Wright and Douglas have not been accepted as entirely correct; not, however, that I doubt the honesty of these men.

My experience in the treatment of tuberculosis has been mostly confined to the surgical aspect—in the abdominal cavity, appendicial tuberculosis, etc., and I must say that the results in

these cases are nearly always satisfactory if you operate in time. I have removed many tubercular tubes that were broken down so I could hull them out without ligation, and others where I had to ligate the stump, and in most of these cases there has been no return, the patients having made rapid recoveries. I have removed uteri, per vaginum and by the suprapubic route, for malignant growths where there has been no return, and in a number of these cases I now believe that careful pathologic examination would have shown that the growth was not malignant but tubercular. I have removed appendices so badly tubercular that I had to make a section of some of the cecum, putting a clamp below and cutting it off, and they have gotten entirely well with no return. I recently received a letter from a lady who now lives some distance from here, telling me how well and stout and strong she now is, from whom I removed a tubercular appendix that was diseased down to the wall of the bowel. It is probably true that we constantly meet with tubercular conditions in abdominal surgery, and that we are frequently removing tubes and ovaries, and sometimes uteri, that are tuberculous and we do not know it, and the patients get well.

Excellent results are obtained in surgery of the kidney for tuberculosis. It is now universally conceded that primarily it is unilateral, and with the newer methods that have been developed—not so much by surgeons as by those specialists in the treatment of general tuberculosis—we have learned how to make diagnosis early in the disease, when we can remove one kidney before the other becomes involved. By means of the ureteral cauterization we are now able to determine whether one or both kidneys are involved, and no doubt we will finally be able to determine whether one kidney has maintained its function sufficiently to justify the removal of the other by cryoscopy may be of value. However, that has not developed sufficiently to be of practical importance.

DR. RAVITCH: I am very sorry that Dr. Wathen limited his paper and did not speak of surgical tuberculosis of the skin, such as ulcers of the legs, blastomycosis, etc.

In regard to the use of bismuth paste, all of the reports on it are very favorable, and these cases apparently get well, yet I believe you will find later on that some of these cases reported to have been cured were not cured.

A number of cases have lately been reported suffering from poisoning from the absorption of bismuth. It seems to act some-

thing like the injection of paraffin in a broken nose; in the beginning it appears to be successful, but later on you found that the results were very disappointing.

DR. J. W. IRWIN: I heard part of the essayist's paper, and what I heard entertained me very much. I have long known that bismuth is a valuable remedy in chronic inflammations, especially those affecting the intestinal canal, but not until recently have we had reports touching upon the injection of vaseline and bismuth into sinuses. I can easily see that this mixture would coagulate, and it might prevent offensive matter entering these canals, thus enabling them to heal far better, and it might have some little specific effect upon tubercle bacilli.

When the disease due to trachini spiralis prevailed some twenty-five or thirty years ago, as a result of eating raw pork (the hogs having feasted on rats and taken the disease), it was for some time a mystery how to get rid of this disorder. Some physician or other in Germany experimented with various things, and finally found that glycerine would destroy the trachini if administered within a given time after eating the pork, before the trachini had found their way out of the stomach; that it not only prevented trouble, but actually cured it in the system. Those not so treated went through a very low state of fever, very much resembling typhoid, lasting four to eight weeks.

Now, that was a simple remedy for the destruction of the trachini, and bismuth is surely a simple remedy. I have given it in many cases of tuberculosis affecting the intestinal tract, and I have given it in various disorders arising in tubercular patients, but I have never heard any one say that it cured tuberculosis. I do not say that it will not cure any of these cases, but I think its use is mainly that of stopping up the cracks.

DR. WM. A. JENKINS: I think the elimination of tuberculosis, or the "Great White Plague," concerns not only the medical profession, but practically the whole civilized world—a matter of common interest to which all eyes are turned. Any phase of tuberculosis is particularly interesting to any medical man, no matter what his specialty, and even to those of us who are strictly internists, as I myself am, the subject presented this evening is interesting.

Surgical tuberculosis is, perhaps, of most interest to us, in that we are usually called in to see these patients first; we see them before the eye, the ear, nose and throat man, and before

the gynecologist and before the general surgeon sees them. Therefore, we should be thoroughly cognizant of the fact that tuberculosis is a condition which may affect any organ or tissue of the human body, and we should be constantly on the outlook for it, and we should be continually reading advanced literature on the subject and gaining points from our fellows along these various specialties, in order that we may know when and how to advise patients who first seek us on account of these conditions. I feel that the general diagnostician is concerned very considerably up to this point. I believe, perhaps, that more broad and extensive advances have been made in surgical tuberculosis than in the strictly medical aspect of the question. I know that I have been very much impressed by the results obtained in cases of localized tuberculosis which have presented themselves to me, and been referred by me to the surgeon. I have seen very excellent results along the line of the gynecologist and the eye, ear, nose and throat men; likewise in the line of the general surgeon. Often these conditions are markedly benefited by the mere act of opening the part affected, and I feel sure that, in some instances, the rest has been brought about by attention to hygienic and general medicine.

I feel that each branch of medicine may add its quota of knowledge in the fight against this terrible disease.

DR. A. D. WILLMOTH: I wish to thank the essayist for his excellent paper on this subject.

I think Dr. W. H. Wathen sounded the keynote when he said that timely operation promises everything in surgical tuberculosis. As a rule, in the abdominal conditions of which he spoke, it is only the timely operation that promises anything at all; after they are far advanced there is very little hope. It is a peculiar, and, at the same time, a very fortunate fact that most of the cases the surgeon has to deal with are localized in character—encapsulated and localized where they can get to it, and many times remove it in toto.

The use of the bismuth paste, mentioned by the essayist, is a subject which has been brought forward only in the last few months, and which promises a great deal. I do not know whether he mentioned it in his paper or not, but it has been stated by some of the speakers this evening that the bismuth paste acts by preventing any foreign material from getting into the wound. This particularly applies to the rectum, where it has been used. In a paper read by —— some few months ago he advocates

the idea that it not only prevents mixed infection of pyogenic organisms, but it favors an increased blood supply, and as an illustration of what he cites a case in which he removed the cervical glands on one side and injected bismuth into the glands on the other side, and some two months afterward when he undertook to remove the glands into which he had injected the bismuth he found that the vascular condition had been so much increased that the slightest nick with the scissors or knife would excite profuse hemorrhage. He defends the original idea that the chemical effect of the bismuth increases the blood supply, and in that way increases the leucocytosis and destroys the tubercle bacilli.

The cases in which poisoning occurred from injections of bismuth, which have been referred to by several, have, I think, been largely confined to rectal cases, where the rectal specialist injected it for diagnostic and curative effects. I believe —— was the first man to call attention to the poisonous effects of bismuth. Up to that time we had all been under the impression that it was a harmless agent. Theodore Coker, in 1882, called attention to the toxic effects of sub-nitrate of bismuth. Since then there have been several cases of sub-nitrate of bismuth poisoning. If I am correct in my recollection of the cases that have been reported, they have all come to the conclusion that this poisoning is most apt to occur when sub-nitrate of bismuth is used in the rectal region.

DR. G. S. HANES: With reference to the poisonous effects of bismuth, I can absolutely controvert the statements quoted that it is more poisonous in its effect when used in the rectum than elsewhere. As I understand it, a great many cases have been reported in which poisoning has resulted from injecting sinuses away from the rectal region; in fact, I think more cases have been reported where poisoning occurred from injecting sinuses away from the rectum than about it. It is said that, where large doses of bismuth are given by the mouth, intending that it shall traverse the alimentary tract and get into the colon, the poisonous effect is not produced in the small intestine but in the larger gut, on account of its coming in contact there with certain bacterial agents by which it is decomposed into a nitrate and is absorbed as such. They say that these bacterial agents are more numerous in the sigmoid and rectum than elsewhere and, therefore, that bismuth injected into the rectum and sigmoid is apt to produce the greatest amount of poisoning. Upon two occasions

while Dr. Bruce and I were doing some radiographic work (before I had read these reports), I sent to the drug store for a pound can of sub-nitrate of bismuth, mixed it with rich sweet milk, took a man and inverted him and poured this entire mixture through a proctoscope into his bowel, and I have a radiograph in my office showing that it passed along the large gut and around to the cecum. He then went to the toilet and passed all he could. In one case I washed out the bowel; in the other I did not. Neither of them showed the least sign of bismuth poisoning. Gentlemen, I am making no misstatements, and I claim that this absolutely disqualifies the assertions that bismuth is more liable to be followed by poisoning when injected into the rectum than elsewhere in the body. I believe we really get the maximum amount of poisoning where bismuth is injected into a large cavity and remains in it for a great length of time, slowly decomposing, and is absorbed. I do not know of anyone who has been injecting bismuth in rectal sinuses except Pennington, who read a paper here in October in which he stated that he had injected some fifteen or twenty cases, a number of whom were apparently well, but he said that sufficient time had not then elapsed to determine definitely whether or not they were cured. I believe we will eventually learn that a great many of these cases are not cured, because we see many fistulæ about the rectum that will close and remain closed for months, during which time the patient will experience no discomfort until the secretions have collected in sufficient amount to cause pain from pressure; after the pus has escaped the opening may soon close, and the patient remain comfortable for an indefinite time. So, it is reasonable to suppose, in these inactive fistulæ, the bismuth has simply put a check upon the secretion, but the fistulæ is not cured at all.

In complete fistula—that is, where there is an external and internal opening—I do not see how sufficient pressure can be produced to effect a cure.

DR. WATHEN (*closing*): It seems that there is some little misunderstanding in regard to the toxic effect of bismuth. All the cases reported which have resulted fatally have been those in which the bismuth was taken into the stomach with the idea of making a radiograph of the stomach later on. It passed down and the toxic effect was due to absorption in the lower structures. Therefore, it is suggested that, in making radiographs of the

stomach some form of bismuth other than the nitrate should be employed.

In regard to the question of Beck's paste, it has been suggested that the bismuth be combined with paraffin and not with vaseline, and you can make this just as hard as you want it. In sinuses of the rectum it is advised to force the paraffin in and allow it to harden in this tract, thus holding it open. Possibly, as Dr. Irwin suggested, plugging it up has something to do with it. It was formerly thought that paraffin could not be absorbed, but it has been shown that the very hardest types do undergo slow absorption. Investigations have been carried on along that line by Drs. Kirchner, and Eckstein, of Berlin, in 1906, in which soft paraffin was injected and rapidly absorbed in some cases.

Recent Progress in Medical Science.

OBSTETRICS, GYNECOLOGY AND PEDRIATICS.

ELECTIVE CESAREAN SECTION.

From a review of authorities, M. F. Porter, Ft. Wayne, Ind. (*Journal A. M. A.*, March 20th), finds the average maternal mortality from high forceps, version, induction of premature labor and expectancy is 1.14 per cent. and the fecal mortality 17.3 per cent., while from these same figures we find that there was serious maternal morbidity in 42 per cent. and a serious fetal morbidity of 12.3 per cent., not including the fractures of the skull mentioned by Leisenwitz's figures. He also thinks it worth while to mention the opinion of Frazier that the children who recover from cerebral hemorrhage invariably suffer physical disability, and that in 30 per cent. epilepsy develops. Through private correspondence Porter has collected from 13 operators reports of 126 cases of elective Cesarean section done on uninjured, uninfected, unexhausted women. Four were done for tumor in the pelvis; the tumor was removed at the same time as the Cesarean section in three cases, and in one this point was not reported. Six were done for placenta prævia, three for eclampsia, one for rigidity of the soft parts in a primipara, and one for uterine distortion due to ventrofixation. The remaining 110 were for contracted pelvis. In this series there were four material deaths, two due to uremia, but including one maternal

death following the removal of a tumor plus Cesarean section, which might have been fairly attributed to the removal of the tumor. There were four fatal deaths, and no fetal morbidity, while the maternal morbidity was only 12.69 per cent., as against 42 per cent. after the other methods.

He quotes other authorities as to the comparative safety of Cesarean section, and concludes that it should supplant other obstetric operations in many cases of contracted pelvis, and practically always in primipara. It should be the operation of choice in placenta prævia centralis if the child is viable. In eclampsia near term in a primipara, it is the best way of delivery, except when the vagina and pelvis are incapacious or the child is relatively small, when Dührssen's operation may be preferred. In case of the need of abdominal section for tumors at term, the delivery by Cesarean section should immediately precede or follow the removal of the tumor. Porter also holds Cesarean section, in case of an elderly primipara at term, with rigid soft parts, very sensitive to pain and with unstable nervous equilibrium offers better chances for the mother and child than the so-called conservative operations. A chief argument for Cesarean section is that it entails no risk to the child, and in case of a dead child this argument carries no weight. Hence, in case of a dead child, one of the more conservative operations may be preferred, when otherwise Cesarean section would be the choice.

HYPEREMIA TREATMENT IN GYNECOLOGY.

After first remarking on the more recent trend toward conservative methods in gynecology, A. Stein, New York (*Journal A. M. A.*, January 23), discusses the treatment of gynecologic and obstetric conditions by the artificial induction of local hyperemia. The hot air method, he says, has not received the consideration from the general practitioner which it deserves. The latter has frequently the opportunity to employ it in gynecologic conditions and could easily do so. It is contraindicated when there is fever, in pregnancy, in hemorrhage not of ovarian origin, in menstruation and hemorrhagic endometritis, and in advanced pulmonary and cardiac diseases. The field in which it is applicable includes chronic inflamed adnexa, pelvic exudates, chronic parametritis and perimetritis, contracted painful scars, and fixed malpositions of the uterus and adnexa when resulting from inflammatory processes. When a sudden rise of tempera-

ture follows the first hot-air treatment, it means a pus focus somewhere, and it is then advisable to stop the treatment and try to bring about absorption of the pus by other means before continuing it again. In fact, the presence of a pus collection causing so quick a reaction to hot air has led to the use of the latter for diagnosing such foci. For practical purposes, the easiest way to give hot-air treatment in private practice is by means of the ordinary semicircular cradle, made airtight by covering it with blankets, and carrying the hot air to it by a small funnel-shaped sheet iron chimney, or colored electric light bulbs may be used inside the cradle. The hot-air treatment causes an active local hyperemia and stimulates metabolism, relieving pain and causing absorption or breaking down of exudates. Perspiration is caused, cooling the skin and allowing high temperatures to be employed. The treatment begins, in fact, only when the temperature has reached 80 or 100 C. (176 to 212 F). The first treatment should not be over 25 or 30 minutes; later, if the patient's condition favors it, it may last 60 minutes. Advanced pulmonary or heart disease, it must be remembered, contraindicates its use. Stein also speaks of the value of the weighing treatment, the details of which have been elaborated by Pincus, as coming under the head of hyperemia treatment. A combination of this with hot-air method is especially useful, and both are available to the general practitioner, as they require only patience and no complicated apparatus. Stein has not found the suction method of producing hyperemia to possess any very special advantages over other methods in gynecologic cases. Dry cupping, however, has its advantages in obstetric practice in increasing the flow of milk, and he thinks the hyperemic treatment would help to increase the number of nursing mothers; it is also useful in the treatment of puerperal mastitis. It should be instituted, according to his experience, as soon as the signs of mastitis appear, and it then allays pain and inflammatory symptoms at once. If pus has formed, the incisions need only be small ones with the treatment, and the shape and function of the breast can be preserved. In conclusion, he speaks of the importance of attention to the general condition of the patient as an essential in any use of the treatment by artificial hyperemia.

UTERINE FIBROIDS AND MALIGNANT DISEASE.

Ellice McDonald, New York (*Journal A. M. A.*, March 20), has collected and tabulated, as regards the incidence of occur-

rence of malignancy, 700 cases of uterine fibroids. The tables show that adenocarcinoma of the fundus occurred in 20, or 2.9 per cent.; squamous carcinoma of the cervix in six, or 0.8 per cent.; sarcoma in seven, or 1 per cent.; and chorioepithelioma in two, or 0.3 per cent.; the total number of the whole 700 being 35, or 5 per cent. The relative frequency of adenocarcinoma is thus seen to be much greater with fibroids than that of squamous carcinoma, and the author does not accept an etiologic relation between this latter form and fibromyomata, but considers them accidental. While a common etiologic factor may partly explain the association of adenocarcinoma and fibroid tumors, it is probably that the fibroid has some part in causing this association. The tendency of pathologists has been to doubt the possibility of a sarcoma arising from a uterine myoma, but most now admit its occurrence. It is the form of malignancy most likely to be overlooked, as shown by Winter's figures, and that author estimates that systematic search would reveal sarcoma in about 4 per cent. of these growths. This is not born out by McDonald's tables, in which microscopic examination was made in all cases. The two cases of chorioepithelioma malignum are supposed to be the only ones so far reported of this form as a complication of fibroids and are of interest chiefly on account of their rarity. In the whole number of malignant growths there was only one, a squamous carcinoma, occurring in a patient under forty, and their frequency increased with each decade after that, being five per cent. in the fifth, 12.7 per cent. in the sixth, and 23.8 per cent. in the seventh. In view of this large percentage of occurrence of fatal disease among patients with fibroid tumors, and the great increase of such complications after the age of forty, it seems wise for a physician to advise the removal of such growths after that age. The probabilities are that malignant change will occur in one case in 20 between 30 and 40, in one in every eight between 50 and 60, and on every four between 60 and 70. Were there any certain way of determining the advent of malignancy the danger might be less, but who can say how soon any fibroid may undergo this change? The smoldering fire should not merely be watched until the house is in flames.

BLOODLESS HYSTEROTOMY.

A. H. Hertzler, Kansas City, Mo., (*Journal A. M. A.*, March 13), describes his methods of avoiding excessive hemorrhage in

the removal of uterine fibroids, by a scheme of preliminary ligation of the blood vessels. The steps are as follows: "(1) The peritoneum is incised about one side of the tumor. (2) The tumor is raised out of its bed by blunt dissection sufficiently to reach the point of blood supply. (3) This having been found, a ligature is passed and tied and the tumor severed. (4) The peritoneum is incised the remainder of the way around the base and the tumor removed. The peritoneal edges are then approximated by a running plain catgut suture." Each vessel must be separately secured in this preliminary ligation. In some cases, however, in which the tumor is deeply situated or has a wide base, or in case of multiple tumors close together calling for removal of part of the uterus, the area of blood supply is diffuse and such preliminary ligation is impracticable. For these cases he has devised what he calls "bloodless hysterotomy," in which he attempts to apply the principle of the Esmarch bandage to the uterus. The procedure consists in placing a rubber-covered clamp on either side of the organ in such a manner as to compress the uterine vessels sufficiently to control the circulation without injuring their walls. They are so applied that their tips lie in the triangle formed by the ureter externally, the cervix internally and the uterine artery above. The base of the forceps passes externally to the ovaries and tubes, thus preventing any undue compression of the tube. The clamps once applied, the tumor can be removed and, if necessary, the uterus can be opened with immunity. After removal of the tumor the resulting defect is closed by sutures, two layers usually being required. If necessary, some additional sutures are placed and any large vessels exposed are separately ligated, as in the amputation of a limb. The clamps illustrated in the cuts accompanying the article are Moynihan stomach clamps ground down sufficiently to give them elasticity enough to prevent undue injury to the vessel walls. The curved handles are convenient when the abdominal wall is thin; with thick abdominal walls the straight Moynihan anastomosis clamp can be used with advantage.

MOTOR CAR MISCARRIAGE.

Edward P. Davis, of Philadelphia, Pa., (*Medical Record*, January 30, 1909), says that severe shock or injury is sometimes better borne by pregnant women than frequently repeated small shocks. The presence or absence of consciousness is important,

operations under anesthesia being better borne than accidents. The use of a motor car during the early months of pregnancy is often productive of abortion, while later in pregnancy it is very useful to obtain air and exercise. The author describes two cases of abortion as a result of motoring. In both patients the uterus was entirely normal. The rapid motion of the car subjects the patient to frequent small shocks, which cause slight separation of the ovum, hemorrhage beneath it, and final detachment with hemorrhage. Such abortion is slow and insidious in development, without bright hemorrhage and pain until the uterus becomes distended by blood clots. We should warn our patients of these facts, and advise slow going, with smooth roads, sitting upon the front seat of the machine, and avoidance of long motor journeys.

CANCER OF THE UTERUS.

W. B. Moulton, Portland, Me., (*Journal A. M. A.*, March 13), quotes Crile, that one woman in every eight who reaches the age of 38 dies of cancer (including all forms), and refers to the statistics of Werthheim in uterine cancer as compared with those of other operators, who cure only from five to eight per cent., while he reports 22.5 per cent. of all patients cured. The explanation lies in the fact that he sees the patients earlier, those that come before surgeons in this country are past successful treatment, at least in the majority. A cancer of the cervix that has progressed so far as to be diagnosed unhesitatingly by the touch, eye, or history can be pronounced to have reached the border line between possibility and impossibility of cure. Our hope here lies in the general practitioner who must start a campaign of education among his female patients and himself consider as serious and not neglect all disturbances of menstruation occurring in the cancer age. Complete surgical extirpation is at present our only method for the cure of cancer of the uterus, but the percentage of cures is much below what it should be. Every woman who has borne children should be examined, Moulton believes, by a competent physician at least once every year until she is 55 years old, and the effect of the adoption of educational measures and examination would be the prompt discovery of an enormous number of cancer cases in their very incipency.

A DIPHTHERIA EPIDEMIC.

The history of an epidemic of diphtheria in the Connecticut Hospital for the Insane, from April, 1907, to May, 1908, (*Journal A. M. A.*, February 6), is given by Jessie W. Fisher. There were 92 cases altogether, 57 of them in employes and 35 insane patients. The source of the infection in the first case was a visitor, and the second was possibly from an outside source; but the epidemic was clearly fostered by bacillus carriers, human and animal. Besides the 92 patients with clinic diphtheria, 95 apparently healthy individuals whose throats showed the presence of the bacillus, were also isolated, and for a longer average period (30.2 days) than that of the diphtheria cases (20.8 days). There were no fatal cases; all yielded readily to antitoxin. In an almost exclusively adult population, the disease showed a predilection for subjects under 30 years of age. Prophylactic cultures were taken in 4,081 cases, and 2.08 per cent. showed diphtheria bacilli. Inoculation for testing the virulence of the organism was done in only six cases, near the end of the epidemic. Three months after its subsidence, 506 more cultures were made from the throats of patients and employes, and 1.1 per cent. showed the Klebs-Loeffler bacillus, but in all cases the inoculations proved harmless to guinea pigs. This fact, together with the other fact that only three of the five tested during the epidemic were virulent, seems to indicate that probably about half the apparent diphtheria carriers would be found by inoculation tests to have only non-virulent bacilli in their throats. It would seem likely, therefore, that about half of the 95 individuals isolated as the result of culture tests, might have been spared the inconvenience had the laboratory force been sufficient to test the virulence in every case. Under the circumstances, however, the plan adopted was the only safe one. An interesting point noted was that rats frequenting the sewer from the isolation hospital, and the cats that preyed on them, seemed to carry the infection, cultures from their fur revealing the germs. The author's conclusions are summarized as follows: (1). The chief source of infection in this epidemic were latent cases (bacilli carriers), rats and cats. (2). One negative throat culture is insufficient for diagnosis. (3). Two and even three successive negative throat and nose cultures do not constitute sufficiently strict quarantine regulations to prevent the spread of diphtheria. (4). In institutions in which large numbers are congregated, at least four successive negative cultures, including

at least two nose cultures, are imperative. (5). All healthy individuals carrying bacilli in their throats should be isolated during a time of epidemic in institutions, unless wholesale immunization can be undertaken. (6). The isolation of bacilli carriers in private practice is neither reasonable nor expedient. (7). Bacilli carriers harbored the bacilli longer than did the clinical cases of diphtheria. (8). All hypertrophied tonsils should be treated as a prophylactic measure. (9). The Neisser stain has distinct advantages over the Loeffler. (10). Stained smears are of great value for immediate diagnosis. (11). The early diagnosis made possible by careful culturing, permitted of early treatment with antitoxin, undoubtedly diminished the severity of the individual case and the severity and durations of the epidemic. (12). Of healthy individuals during the epidemic, 2.08 per cent. were found to be bacillus carriers. (13). When no epidemic existed, non-virulent Klebs-Loeffler bacilli were found in 1.1 per cent. of healthy individuals. (14). No virulent Klebs-Loeffler bacilli were found in 506 throat cultures three months after epidemic. (15). Two weeks is the limit of immunization for 1,000 units of antitoxin.

CONGENITAL ABNORMALITIES OF THE PENIS AND THEIR INFLUENCE UPON THE ACQUISITION AND COURSE OF GONORRHEA.

E. Wood Ruggles, Rochester, N. Y., (*Medical Record*, January 9, 1909), says that the penis is subject to frequent malformations which affect the symptoms of gonorrhea and its acquirement. The first abnormality considered is contracted meatus, causing retention of secretion and more penetration of the germs into the tissues. The contracted meatus is frequent among the Jews, and circumcision has something to do with this. The transmission of an acquired malformation appears to be shown here. A long prepuce also retains gonococci. The presence of accessory canals affects the prognosis in gonorrhea, the germs being retained for a long time. The most common form is a double urethra. There may be blind canals present.

TREATMENT OF ECLAMPSIA.

H. D. Fry, Washington, D. C., (*Journal A. M. A.*, December 12), pleads for prompt evacuation of the uterus in cases of puerperal convulsions. Eliminate pregnancy, he says, and we

cut off the source of the toxemia and are in a position successfully to eliminate the poison which has collected in the system, if it has not already gone too far and produced irreparable visceral lesions and damage to the nervous system. The frequency and extent of these lesions bears a close relation to the number of convulsions, hence the importance of early treatment. Since this method has been adopted at the Columbia Hospital, Washington, and in Fry's private practice, he can report 15 cases of eclampsia and one of pre-eclamptic toxemia with only one maternal death, and this last was of a patient practically moribund before the treatment was undertaken. The methods employed to effect prompt delivery were: vaginal Cesarean section in 12 cases; manual dilatation and forceps symphysiotomy and forceps in one. Two cases are reported. The infant mortality is, of course, high by this treatment of immediate delivery, but not more so than with other methods. The mortality of full-term infants was 40 per cent. and of the premature 80 per cent. It is a fair inference to make that still prompt treatment could have lessened the infant mortality.

INTERSTITIAL PREGNANCY, WITH REPORT OF A CASE.

B. M. Baker, of Norfolk, Va., (*Medical Record*, February 6, 1909), published a rare case of interstitial pregnancy which occurred in his practice, and in which recovery followed operation. In interstitial pregnancy the ovum may rupture into the uterine cavity and pass out like an abortion. The etiology is some form of inflammation of the lining of the tube, which prevents the passage of the ovum into the uterus before it is fecundated. Hyperplasia of the mucosa occurs, which is greater in the interstitial form than in other forms. An interstitial pregnancy is grave for the child, desperate for the mother, the mortality being one in fifty. Treatment can only be operative, when rupture has taken place, the uterus being removed.

HOW TO SAVE THE BABIES.

WHAT ORGANIZED EFFORT IS DOING TO PREVENT INFANT MORTALITY.

Cities have a right to see to it that infant life is preserved. But no city, however ample and autocratic the powers granted to its board of health, can enforce its rights to the lives of infants

without the hearty aid of all its women, mothers and non-mothers alike, says Edith Howe in the March *Delinicator*.

How shall women give that aid? First of all they must know the facts. They must make it their particular business to learn why the infant death-rate falls so slowly, and why so large a percentage of school-children are physically handicapped.

At the call of the Commissioner of Health early last Summer, representatives of over fifty educational and charitable agencies, including the departments of health and education, hospitals, dispensaries, philanthropic institutions, milk and ice depots, and the press met in New York and organized a conference on Summer Care of Babies.

Experts interested in the care of mothers and babies were drawn together and brought face to face with the fact that a large number of babies would surely die during the Summer unless prompt, vigorous and organized effort prevented it. All members of the conference—doctors, social workers and mothers—were set discussing what mothers ought to know in order to save their babies, and the conclusions thus reached were summed up on a beautifully colored card, five hundred thousand of which were distributed to mothers.

Over a hundred nurses, trained in hospital and social work, were sent out to visit the mother of every new-born baby and give her private lessons on "How to Keep Her Baby Well." The city was districted, and in the districts not otherwise covered the Health Department supplied nurses. Doctors were sent to sick babies, and twelve medical inspectors were employed by the Health Department to go at a moment's notice to every case reported. Summer schools for mothers were held on the recreation piers, in the parks, at the vacation schools, and at the infants' milkstations. In these schools mothers consult with doctors, lectures were given, and nurses showed by actual demonstration how to bathe, dress and feed the baby. Here a spirit of emulation grew up. Each mother became eager to have her baby the most beautiful.

DIPHTHERIA "CARRIERS."

M. Solis-Cohen, Philadelphia, (*Journal A. M. A.*, January 9), believes that the latent and "carrier" cases are mostly responsible for the spread of diphtheria in cities where the usual precautions are taken as to notification, etc. He gives his own results in the examination of those who had come in contact with

diphtheria and quotes those compiled by Graham-Smith which correspond fairly well with his own, which showed an average of over 60 per cent. infected. The infected "contact" is, therefore, as great a menace to public health as the convalescent from actual diphtheria. He defines as "latent" diphtheria the condition in which positive cultures are found in persons showing some pathologic condition, local or general, unassociated with pseudomembrane. Some of those cases may possibly be only tonsillitis. The fact that non-virulent diphtheria-like bacilli are found in the mouths of healthy persons complicates the question, but Solis-Cohen thinks that health officials would be justified in demanding bacteriologic tests of those who had been in contact or inmates of the same house or institution with a diphtheria patient, and, if found infected, isolating them till the bacilli disappear. But, owing to the possibility of the organisms being non-virulent, inoculation tests should be made when requested on guinea-pigs, and restrictions removed if the animal survives. He has followed this plan in his practice and as medical inspector, whenever possible, since September, 1906, with good results and relates a number of instances showing its utility.

DO YOU POISON YOUR BABY?

IF YOU FEED IT UNMODIFIED COW'S MILK YOU ENDANGER
IT'S LIFE.

Nearly all of the germs that cause the characteristic maladies of infancy enter by way of the mouth, and it is safe to say, at least roughly, that half of them are lodged there by contaminated food, and that the other half find a harbor because bad food has lowered the child's power of resistance, says Dr. Leonard Keene Hirshberg in the April *Delineator*. The constituents of ordinary cow's milk produce an effect upon a baby not unlike that of alcohol upon an adult. That is to say, they are not only of questionable value as foods, but they also act as poisons. A baby which leaves the breast, and is put upon cow's milk, has to acquire an immunity to the albumens and caseins in much the same way that a young smoker achieves to tobacco.

There is, first of all, a period of actual poisoning or intoxication marked by violent illness and general exhaustion. Then the body begins to conquer the invading poisons, and in the end it is almost indifferent to them. Most human beings, by the time they reach the age of five or six, are entirely immune to the poisons of cow's milk, just as most adult men are entirely im-

mune to the nicotin and other poisons in tobacco. But now and then you will meet a person who cannot drink cow's milk, even at maturity, just as you will occasionally meet a man who has never been able to smoke without nausea.

The fact, then, to remember in all of this is that cow's milk, unmodified, is not merely indigestible (like sand, for instance) but actually poisonous. In most cases, of course, it does not at once produce death, as a mineral or alkaloid poison would do, but in every case it makes some sort of assault, whether mild or severe, upon the unimmunized baby's body. There may be an immediate indication of this, in the shape of vomiting, colic and other signs of acute illness; and then, again, there may be nothing apparent but a slight loss of weight. Whatever the visible effect, it will always be accompanied by a general lowering of vitality and a decrease in the capacity for combating the invading germs of disease. The baby whose body is trying to accustom itself to a poison is a baby whose chances of having pneumonia or cholera infantum are measurably greater than those of the normal, breast-fed baby, and whose risk of dying, if it grows ill, is greater, too.

"Don't be tempted to exclude gonorrhea because you see no bacteria or other evidence of vaginal or urethral infection. In women the presence of gonorrhea may not make itself known for six weeks or more, and salpingitis may be the first evidence."
—*From 700 Surgical Suggestions.*

The expense, suffering and loss of life is greater from venereal disease than that of tuberculosis.—BYRON ROBINSON.

"Do not give a good prognosis in cases of melano sarcoma of the fingers and toes, no matter how small the tumor may be, and no matter how high the amputation is preformed. In the majority of cases, the patients succumb to metastases."—*From 700 Surgical Suggestions.*

The story that college is a place where pebbles are polished and diamonds are dimmed is a half truth and a half lie. The diamonds dimmed by colleges never did reflect excessive light.

—BYRON ROBINSON.

"In the treatment of fractures of the forearm no consideration is more important than the avoidance of contractures of the fingers, by the intelligent use of splints and by means of early, active and passive movements."—*From 700 Surgical Suggestions.*

BOOKS AND PHAMPHLETS RECEIVED.

THE CHICAGO NIGHT UNIVERSITY BULLETIN—Chicago, Ills., March 6, 1909. General Editor L. D. Rogers, A. M. M. D. L. L. D.

OUR DUMB ANIMALS—Boston, Mass., March, 1909, George T. Angell, Pres.

BACKBONE—S. DeWitt Clough, Editor, Ravenswood Station, Chicago, Ill., December, 1908.

BULLETIN—Chicago School of Sanitary Instruction, Dept., of Health, Chicago, W. E. Evans, M. D., Commissioner, Feb. 20, 1909.

INTERNATIONAL CLINICS—Vol. I, 19th, Series, 1909. Edited by W. T. Longcope, M. D., Philadelphia, J. P. Lippincott Co.

TRANSACTIONS of the College of Physicians of Philadelphia. Third series. Volume the 30th, 1908. Edited by William Zentmayer.

ANNUAL REPORT of the Surgeon General of the Public Health and Marine Hospital Service of the U. S., for the fiscal year 1908.—*Government Printing Office.*

REPRINTS.

The Surgical treatment of Chronic Glaucoma, S. D. Risley, A. M., M. D., P. H. D.

Some Etiologic Factors in Interstitial Kuartitis, S. D. Risley attending Surgeon, Hills Eye Hospital, Philadelphia, Pa.

Ocular Affections Associated with disease of the Sinuses contiguous to the Orbit.

Prenatal Iridocyclitis, Buphthalmos, Inherited Syphilis.

Further Observation—on the Roentgen-Ray Examination of the Accessory Nasal Sinuses, E. W. Caldwell, M. D., New York.

Speech of Hon. Swager Sherley, before the House of Representatives, Washington, D. C., Jan. 8, 1909.

AMERICAN PROCTOLOGIC SOCIETY.

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PROGRAM.

Monday, June 7, Executive Council meets at 11 A. M. First regular session at 2 P. M. Annual Address of the President—Subject: Progress in Proctology.—George B. Evans, Dayton, Ohio.

PAPERS.

1.—A Review of Proctologic Literature for 1908.—Sam'l T. Earle, Baltimore, Md.

2.—An Operation for Anal Pruritus.—Thos. Chas. Martin, Washington, D. C.

3.—The Treatment of Pruritus Ani, Including a Consideration of its Pathology.—Wm. M. Beach, Pittsburg, Pa.

4.—Appendicostomy as an Aid in the Treatment of Malignant and Intractable Dysentery.—John L. Jelks, Memphis, Tenn.

5.—A Consideration of the Prophylaxis and Treatment of Cicatricial Rectal Stricture.—Alois B. Graham, Indianapolis, Ind.

6.—The Use of Spinal Anæsthesia in Rectal Surgery.—Collier F. Martin, Philadelphia, Pa.

7.—Vaginal Anus in the Adult, with Report of Two Cases.—Louis J. Hirschman, Detroit, Mich.

8.—Tubercular Fistula with Extensive Infiltration, with Specimen Exhibited.—Sam'l T. Earle, Baltimore, Md.

9.—Abdominal Massage as a Means of Relief in Chronic Constipation, etc.—Thos. L. Hazzard, Pittsburgh, Pa.

10.—Intestinal Auto-intoxication: Its Treatment by Irrigation.—Wm. L. Dickinson, Saginaw, Mich.

11.—Peritoneal Adhesions, with Specimen Exhibited.—Jos. A. MacMillan, Detroit, Mich.

12.—Diseases of the Colon and Rectum as Caused and Influenced by Pathologic Conditions of other Abdominal and Pelvic Organs: Illustrative Cases.—A. Bennett Cooke, Nashville, Tenn.

13.—Necessity for Routine Examination of the Rectum in Intestinal Diseases: Illustrative Cases.—Dwight H. Murray, Syracuse, N. Y.

- 14.—Ball's Method of Operating on Internal Hemorrhoids.—George W. Combs, Indianapolis, Ind.
- 15.—Ball's Operation in the Treatment of Cases of Pruritus Ani, with Report of a Case in which Necrosis of the Flap Occurred.—Louis J. Krouse, Cincinnati, Ohio.
- 16.—Test Diet: Its Value in Intestinal Disturbances.—Jerome M. Lynch, New York City, N. Y.
- 17.—Primary Gonorrhœa of the Rectum in the Male.—Alfred J. Zobel, San Francisco, Cal.
- 18.—Further Observations in the Use of Bismuth Paste in the Treatment of Rectal Fistula.—J. Rawson Pennington, Chicago, Ill.
- 19.—Venereal Diseases of the Anus and Rectum.—Jas. P. Tuttle, New York City, N. Y.
- 20.—Some of the Unusual Conditions which One Meets after a Number of Years Spent in the Domain of Proctology.—Jos. M. Mathews, Louisville, Ky.
- 21.—Pruritus Ani: Its Etiology and Treatment.—T. Chittenden Hill, Boston, Mass.
- 22.—Foreign Bodies in the Rectum and Sigmoid Flexure.—Edw. A. Hamilton, Columbus, Ohio.
- 23.—The Treatment of Constipation.—Sam'l G. Gant, New York City, N. Y.
- 24.—A Consideration of Some of the Benign Growths of the Rectum.—George J. Cook, Indianapolis, Ind.
- 25.—Malformations of the Anus and Rectum.—J. Coles Brick, Philadelphia, Pa.
- 26.—Nævus of the Anal Region, with Report of a Case Associated with Internal Hemorrhoids.—Lewis H. Adler, Jr., Philadelphia, Pa.

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Since the Russian Government enacted the law requiring the poison label to be attached to all containers of Vodka (a strong alcoholic beverage), numerous cases of accidental poisoning have been reported from various parts of the Empire. There is a large population of illiterates in Russia, and with them the poison label appearing on Vodka bottles has come to stand for Vodka. As a result many bottles of really poisonous mixtures are being drunk by these people under the impression that any bottle bearing the poison label contains Vodka. This emphasizes the danger of making the poison label too common, for while we have few illiterate adults, we have many children, and to them the poison label now means a sign of real danger. The attempt to impose the poison label upon drugs, medicines and household remedies, which have been freely and harmlessly taken for years, cannot be too severely condemned. When the poison label appears too often, and on nearly everything, children as well as adults will become careless of poison labels, because the word poison and the skull and cross-bones will lose their terror, and

bottles and boxes of really poisonous drugs will be carelessly left with bottles of harmless remedies, because all are labeled alike. The dangers to the public, and to children particularly, of this confusion cannot be overestimated.—*The New England Druggist.*

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CEPHALOCELE, WITH A REPORT OF THREE CASES IN ONE FAMILY.

John Philips, of Cleveland, Ohio, describes three children of the same parents, in each of whom there was a small cephalocele at the root of the nose. In one child there was a spontaneous cure. Cephalocele and meningocele are generally situated in the anterior or posterior portions of the skull. They leave the cranial cavity between the undeveloped bones, and may contain brain substance or simply cerebrospinal fluid. A tumor of this kind communicates with one of the ventricles of the brain. It may be nasofrontal, nasoorbital, or nasoethmoidal, may occur at the base of the skull or about the foramen magnum. Theories as to their origin are three: that portions of the brain are developed outside the mesodermic coverings; that they are true encephalomata; and that they are produced by the traction of amniotic strands that are adherent to the primitive nervous system. The defect through which the tumor protrudes is not the cause alone, but there must be some added intracranial condition of increased pressure. There are no symptoms unless the tumor is pressed upon, when we may have respiratory disturbances, slow pulse, vomiting, convulsions or unconsciousness. Most children die soon after birth. In a few cases the removal of the sac or of the brain portion is justifiable and successful. All other treatment is unsatisfactory. —*Medical Record*, October 10, 1908.



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Original Communications.

GUN-SHOT WOUNDS OF THE ABDOMEN WITH SPECIAL REFERENCE TO INJURIES OF THE ALIMENTARY TRACT.*

BY FOUCHE WARREN SAMUEL, M. D.,
LOUISVILLE, KY.

MR. PRESIDENT AND FELLOWS OF THE CLINICAL SOCIETY:—The purpose of this paper is to consider gun-shot wounds of the abdomen, limited to wounds of the intestines. Penetrating wounds of the abdomen constitute about six per cent. of all wounds coming under treatment in civil and military practice. It is somewhat strange in looking over the literature relating to this subject that most authorities, in giving statistics, draw the conclusion that wounds of the abdomen occur in greater relative frequency in civil practice than upon the battlefield. There is no doubt that it has been correctly stated that the habit of carrying concealed and deadly weapons in the

* Read before the Louisville Clinical Society, January 5, 1909.

form of pistols in the South and in the West is responsible for a great number of reported cases in these particular sections.

From a study of gun-shot wounds at the Charity Hospital in New Orleans, from 1892 to 1901, it found that the abdomen was opened 113 times for gun-shot wounds. In using the term "penetrating wounds of the abdominal cavity," I limit wounds made by missiles from fire-arms which have penetrated the abdominal wall, and which may have wounded and may not have wounded some of the contained viscera, for we may have penetrating wounds of the abdominal cavity where the missile may have reached that cavity from some remote entrance. After penetration has occurred it will be found that visceral injury occurred in ninety-five, or even a greater per cent. of cases; therefore, owing to its great length, its numerous convolutions, and the great space occupied by the small intestines and the large intestine, this viscus is most frequently wounded.

From recent experience it is evident that the number of perforating wounds of the abdomen has been largely increased since the introduction of the small caliber jacketed bullets with modern fire-arms, and it does not seem to me from a study of a great many records and the written experiences of military as well as civil surgeons, that the mortality is less now than in the past, except under the most favorable conditions and with the best skilled surgical intervention. I might well make this statement, because in one or two of the more recent wars where modern fire-arms have been used, the result as stated by different commanders is that they are by far the most humane in modern war-fare, and the conclusion arrived at by military surgeons is that as many recover without surgical intervention as those who are subjected to exploratory incision with the object of repair. In civil practice, however, the case comes more promptly under the surgeon's treatment, and such treatment is instituted at quite an earlier period and with greater facility, and statistics shows at least a greater percentage of recoveries.

Up to the time of our civil war little effort was made to repair damages within the structures made by gun-shot wounds of the abdomen. Since then so much has been accomplished from experimental work, and clinical observation to elucidate the subject, that immediate interference in civil practice has become the rule, and justly so. Statistics until quite recently showed in general that American and German surgeons advocate immediate interference as early as possible. Many French surgeons, from time to time, particularly those led by Reclus, attempt to show that the expectant plans gives a smaller per cent. of mortality, basing their views upon the fact that after injury to a hollow viscus, the perforation is tamponed by a plug of mucous membrane, the result of prolapse. Reclus further taught that contraction of the muscular coat of the gut and the edges of the wound were thereby approximate, and that the plasticity of the serous surface provided the closure.

My opinion in gun-shot wounds of the abdomen with injury to the hollow organs, and other experiments upon animals, show that this theory is based upon inadequate knowledge. While many think this plug of mucosa sufficient, I have observed it in every instance at the operating table, it does not prevent leakage of the intestinal contents, but even when handled in the most gentle manner great quantities will be exuded from the wound.

Both Sonanburg and von Bergman have shown the fallaciousness of the Reclus views. Others, including Parks, prove that in the majority of gun-shot wounds of the abdomen, viscera was injured. The remarkable experience of Luhe, whose observation of one hundred and fifty-two cases shows that in all there was an injury to the viscera. It is interesting to note that the perforations in his cases were multiple. In 110 cases this occurred. Shock and peritonitis were extremely frequent. In his experience the two factors that determined the size of the wound in the gut were that angle at which the bullet strikes, and the diameter of the point struck. Universally a hematoma is formed in the abdominal cavity, serving as the pabulum

for the micro-organism escaping from the visceral wound. Death in his cases was due, first, to hemorrhage or shock caused by septic intoxication. He advocates operation in all cases where the condition of the patient will permit surgical into-vention.

I quite differ, however, with his views and experiments concerning the exploration of the wound of entrance as absolutely unnecessary and often harmful, but to open the abdomen in the median line, it can add nothing harmful to the patient's condition, and no time is lost, is quick and facilitates rapid work in the preparation of the visceral repairs. In the face of existing peritonitis and septic-intoxication, though operation be undertaken it will be of no avail, and constitutes with me the sole ground for non-interference.

As I have said, gun-shot wounds of the abdomen with intestinal lesions in part were considered fatal, unless operation could be undertaken, and then almost all cases died. Formerly gun-shot wounds were alike in that they were dirty, usually infected and lacerated, unless made by comparatively large lead bullets under slight velocity. To-day we meet with wounds of a different character. They are made by clean, small, steel bullets of high velocity. This obtains particularly on the battle field, but in civil practice we still meet with the ragged wound lacerated with soft, leaden bullets, and the wound is usually irregular in its outline. With the modern fire-arm the wound is left clean.

I believe that abdominal wounds with the ordinary leaden bullets, usually pistol wounds, are as fatal to-day as they ever were, if we use the expectant treatment; but in military statistics field operations show that wounds inflicted by the modern weapon have proven less fatal under the expectant treatment than when operations have been undertaken. This may be true for the following reasons, and I believe it is, though the percentage is not as great as has been stated by the military surgeons, that the surroundings under which the operations are performed, upon the battle field, in hospitals temporarily erected,

where the medical department is over-worked, with an immense amount of work to do, and with a scanty supply and few intelligent assistants. Where such patients are intelligent in a modern hospital for aseptic work, where aseptic work can be done, no surgeon would hesitate between the expectant plan and the operative. Wherever the abdomen can be opened with safety, every penetrating gun-shot wound demands operation, no matter what may be the character of the bullet that inflicted it.

Shock in abdominal wounds complicated with visceral lesions are invariably associated with more or less hemorrhage, and its severity is most likely directly proportionate to the amount of blood lost. On the other hand, it may be found, however, where hemorrhage has been slight, that the bullet has done very extensive injury to the hollow viscera, or to other viscera, or to some important nerve trunk. Under such circumstances no benefit whatever can accrue by delaying operation. The anæsthetic, of course, under such circumstances must prove a more dangerous element in the presence of shock, but increased danger in no way counterbalances the benefit derived from its use. It permits the surgeon to at once become master of the situation, enabling him to prevent further hemorrhage and infection of the peritoneum, to repair the injuries inflicted, to reduce at once the dangers of infection to a minimum. At the same time it permits the use of that most valuable remedy for combatting shock, intravenous injection of salt, and the toilet of the peritoneum can be made to prevent the further influence of sepsis; every moment of delay in these cases proportionately decreases the chances of success.

As the wound of entrance or exit can never give positive symptoms or signs except in a very few instances as to perforation or injury of the viscera, such as the protrusion of omentum or the escape of fecal material, that would largely depend upon the size of the missile, with small bullets of modern fire arms, and particularly of such injuries as occur in civil practice (which are pistol wounds).

It has been the experience of the writer, and he has

operated on a goodly number, as well as seen equally as many not operated upon, in which he recalls only a few instances when signs such as the protrusion of omentum or the faecal contents confirmed a diagnosis of perforation.

Wound of Entrance.—Text book advise to carefully enlarge the wound until the peritoneum is reached, and with touch or with sight to determine perforation or penetration, is, in my opinion, a very poor rule to teach. While one should never take for granted that the abdominal cavity has been invaded by the apparent course the bullet has taken, or through the tenderness, or distension or shock that may be present. In abdominal wound of the parites has penetrated has concluded that penetration has occurred with or without personal injury. He should avoid such aids to diagnosis, as the introduction of hydrogen gas or fluids through the rectum to detect their presence at the wound of entrance or exit, is, of course, necessarily harmful for the reasons of forcing intestinal conditions out into cavity.

If, however, the wound of entrance should be so located as to be in a line with the incision that is preferably placed for the exploration of the abdominal cavity, it may be carefully explored at the time the incision is made to determine penetration. On the other hand, so far as the experience and practice of the writer is concerned, he has made it a rule that in wounds of the abdomen so located and attended with shock, signs of hemorrhage, distension of the abdomen, muscular rigidity, to at once decide that visceral injury has occurred and explorature operation is demanded.

Much has been said and written as to the placing of the incision in penetrating wounds of the abdominal cavity. In my opinion, with two or possibly three exceptions, the best incision for exploration of the abdomen is the incision in the median line from eight to twelve inches in length, or outside of the semi-luna line.

Where the liver has been possibly injured from the location of the wound or entrance, a curvi-linear incision to

explore this region, beginning at the ensiform cartilage and extending downward six or eight inches, and then following the free border of the ribs. If the wound of entrance is in the back a median incision should be selected. These incisions that I have mentioned save time, can be enlarged when necessary, and can be quickly closed. They permit of extensive exploration and thorough examination of the abdominal contents, and permit cleansing much more thoroughly.

The track of the bullet needs hardly ever any attention from the attending surgeon. (I refer to the track through the parietes), because it is, as a rule, an aseptic track. However, it may be treated on suspicious grounds, cauterized, and usually drained. In every case that I have operated upon the track of the bullet wound through the abdominal parietes has never given me the slightest concern afterward.

Whenever the alimentary canal has been wounded, and the soiling of the peritoneum has been incurred, draining has become an imperative measure with me. If the lesser cavity has been invaded it should be drained by an opening in the loin. Drainage should be maintained for as short a time as possible.

As to the search for the bullet it has been my rule to disregard all that has been written formerly upon this subject of searching for the missile. If it should be discovered in the course of my examination of the contents of the abdomen, and particularly that portion which has been wounded, I feel merely fortunate in recovering it. If it is not, it has passed beyond the cavity and is possibly buried in the muscular structures behind and gives me no concern. An undue search, which is usually fruitless, merely prolongs the operation which would have proven successful had not we undertaken such a search. If it should give trouble subsequently its presence could be detected; no immediate dangers need be feared by its presence when left.

The course usually pursued by a bullet when it enters the abdominal cavity is in the direct line of its projection,

and when viscera are wounded, which could be distant from the line of transit, it must be explained by the change in the posture of the patient from the position at the time the injury occurred to that assumed at the time of the examination, and by the natural mobility of certain organs and their change in form and position from contractibility of the viscera.

I cannot subscribe much to the theory taught in regard to the erratic flight of high powered missiles of modern fire arms being deflected in their line of flight by such structures as the intestine or liver or muscles. This doctrine or belief is, in my opinion, a fable founded upon imperfect observations and incorrect deductions.

The character of the visceral lesion and the damage done within the abdominal cavity in perforating wounds depends upon a number of correlating causes. While it is true that the larger the missile with its proportionate velocity, the greater the destroying power and the more serious its consequences. This is particularly true of the modern fire arms where the explosive action of the missile is more serious at different ranges. What is of more importance to me than the size of the bullet is the damage done to the contained viscera. The size and character of the visceral wound will depend upon whether the impact is parallel, longitudinal, oblique to the axis of the gut; the consequences of which will determine the remote life of the bowel, is likewise governed by the character of the mesenteric wound. This is more serious when its attachment is destroyed along the line of the gut wall.

It is now recognized that the explosive effect of the missile upon the hollow viscera depends largely upon the amount of fluid contained at the time of impact. The explosive effect upon solid viscera is enormous at short range; the wound of entrance into the solid viscera by no means portrays the extensive damage done by the missile in its innermost recesses. It has been said that a clean perforation of the liver, spleen or the kidney rarely ever occurs at short range.

It is the purpose of this paper to call attention espe-

cially to injuries of the intestines. I shall therefore not discuss injuries of the solid viscera, or other hollow viscera.

Perforation of the intestine by gun-shot missiles are followed by extrusion of the mucus membranes, rosette-like in appearance. This effect is caused by the redundancy of the mucus membrane and by spasm of the circular fibres. In some perforations it is not so noticeable. Wounds made by the bullet passing through the walls of the gut paralld to its long axis the mucus membrane is carried away and this effect does not occur. It is also absent in wounds of the stomach and large intestine. Wounds of the intestine do not bleed so freely, likewise the solid viscera. The most insignificant artery when severed, under the influence of intra-abdominal pressure, will bleed continuously, and the shock which is significant in all peritoneal wounds brings about the well-known fact of visceral engorgement, which consequently encourages hemorrhages.

One of the most favorable things in behalf of the patient in intestinal lesion, the result of gun-shot wound, is how soon after the injury does the contents of the intestine escape and become extravasated throughout the peritoneal cavity. While text books usually state that it occurs immediately, but Parks and other clinical observers, and my experience coincides in the main with these observations, that it is not true. The prolapse of the mucus membrane and the immediate contraction of the intestine, escape of contents, does not take place immediately, and only become manifest when gas distends the intestine and the faecal contents escape by distention of the gut; the mucus membrane is drawn in, and the wound becomes patulous, and peristalsis forces the contents into the cavity. This may be from five to twenty-four hours after the occurrence of the injury. Again, I recognize that the missile itself may actually carry out with it into the cavity septic material, and allow at once the escape of infectious gas. I believe that the most potent factor in the prevention of the escape of the contents of the intestine

to be due to arrested peristalsis. As soon as peristalsis is resumed the contents escape and marks the beginning of infection. From the smallest perforation extravasation will occur. And while extravasation may be limited by protective adhesions, it is, as a rule, too great to become localized, and seldom does.

Wounds of the mesentary arc of the greatest pathologic and prognostic significance; first, from hemorrhage which may result in immediate death; second, the liability to gangrene to that segment of gut where its attachments have been severed close to the gut wall.

In summing up the prognostic outlook of penetrating wounds of the abdomen we must say that it is uncertain, it is problematical, for the number of perforations to the intestine and damage to other viscera cannot be estimated; therefore, the expectant plan has no place in the treatment of such wounds; and while we admit that a missile can pass through the cavity without visceral injury, it must be a rarity. This has not been proven except in a few cases that have been positively demonstrated by exploratory incision.

Symptoms.—The immediate cardinal symptoms observed in gun-shot wounds of the abdomen are as follows: Shock, hemorrhage, vomiting, melena, change of pulse and temperature. The pulse in all cases slow and compressible—a statement made by Senn to which I cannot wholly subscribe, for I have observed, and recently operated upon a case with considerable hemorrhage and extensive intestinal lesion in which the pulse was slow and of full volume. On the other hand, with slight shock and little viscera injury the pulse was quick, and in no wise can it be taken as indicative of the extent of visceral injury. After twelve to twenty-five hours the pulse and temperature become symptoms indicative of the complications which are likely to arise. Pain as a symptom is of no value whatever.

Taking the cardinal symptoms occurring in gun-shot wounds of the abdomen, my experience forces the conclusion that they are not even diagnostic as to the extent

of the lesion within the cavity, and should not weigh in our decision against operation or exploratory measure in affording relief to the patient. In other words, all penetrating wounds of the abdomen should be explored.

The question to be determined, and upon the solution of which all others depend, is whether or not the abdomen has been penetrated. Confronted by the uncertainty of all these symptoms, and misled by speculative opinion of many operators, we are compelled to apply some positive and certain method of settling this all important question. Such diagnostic methods to determine visceral lesion before resorting to proper methods have hampered surgical progress until recently; therefore, such test as the hydrogen gas tests has been relegated to oblivion. Probing and digital explorations of the wound are both fallacious and positively harmful. In all wounds of the anterior and lacerial abdominal wall, barring those that are remotely located and difficult to determine as to their penetration through the soft part, exploration should be the rule, as it can add nothing in the way of danger to the patient compared to an unrepaired visceral lesion. This applies with special force to intestinal injury.

The general indications for the treatment of gun-shot wounds in this region depends, first, upon the relief of shock, hemorrhage, the removal of infectious matter, the repair of visceral injury, and the provision, if necessary, for drainage.

As to the treatment of shock and control of hemorrhage, and the toilet of the peritoneum, I briefly mention, as it would take too much time to discuss same in the limits of my paper.

But shall briefly outline the method pursued by me in such cases as have come under my care. First, such preparation of the patient should be made as is commensurate with the condition of the patient. As much preparation of the patient should be made as is possible to attain a field through which we operate as aseptically as possible. However, if the patient's condition is serious, much preparation, and a great deal of handling, such as scrubbing,

should be avoided; in fact, the handling of the abdomen with rough scrubbing will tend to force the contents from the intestine, and to freely mix it throughout the abdominal cavity, spoiling the very object which you wish to avoid, to-wit, infection.

The incision is usually selected as a median one; if the wound of entrance is near the middle line I always avoid it in my incision, preferring to cauterize it and drain afterwards. The incision should not be less than eight inches long, if the convenience of systematic exploration is to be carried out expeditiously.

Perforations of the intestine are usually readily found; when they occur in different loops of gut they should all be brought as near as possible to a common center and walled off with large pads from the remaining abdominal cavity to prevent contamination, and should be repaired first unless hemorrhage from other injuries demands immediate attention. It has been my experience where three or four openings occur on the free surface of the bowel or as the lateral wounds it is better to resect; this is imperative where the mesentery attachment is severed, even if two or three resections have to be made. The great saving of time in closing large perforations by suture and the subsequent narrowing which may occur is prevented, the subject of drainage is still subjudice with me. It is my rule to always drain whenever I find the contents of the intestine free in the bowel.

DISCUSSION.*

DR. E. S. ALLEN: Dr. Samuel has so thoroughly covered the field that there is little left to be said, except to compliment him and indorse his statements.

I believe a great many early deaths from the pouring out of infectious material into the alimentary tracts, as a result of gunshot wounds, is possibly the result of the rapid destruction of the colon bacilli that are liberated. We generally attribute these deaths to shock, hemorrhage or something of that kind. It has been demonstrated very lately by experiments on the lower animals, that we may pour out a large number of colon bacilli into the peritoneal cavity, and in the course of 8 or 10 hours make

*Stenographically reported for this journal by H. S. Smith, Louisville, Ky.

a microscopical examination of the blood and find peritoneal fluid and find absolutely no bacteria, yet the animal dies in ten or possibly twenty-four hours. The conclusion is, therefore, that the enzymes of the blood, lymph and peritoneal secretions, acting bacteriolytically, produces a rapid bacteriolysis, and introducing enormous doses of endo toxin. With the rapid destruction of these colon bacilli, there is liberated an enormous dose of intracellular poison sufficient to kill the animal even before nature is able to respond with the white blood cells, and when we look into the peritoneal cavity we find absolutely no trace of inflammation, because nature has so rapidly produced the explosive action on these germs that no cellular reaction is manifest.

The peritoneal enzyme has very little affinity for the streptococcus. Nature depends entirely upon the white blood cells to combat the streptococci. The most virulent infection will not kill our patient near so early as colon bacilli, because there is not this explosive action of the bacteria. The intracellular toxin is not liberated if nature depends entirely upon the white blood cell for the destruction of the streptococcus.

So, I believe, in gun-shot wounds, where we have large doses of colon bacilli poured out into the peritoneal cavity, death is very frequently the result of nature's rapid destruction of the colon bacilli. It has been demonstrated that the debris environing the bacteria assists their rapid growth. It has been shown by experiments on the lower animals that large doses of tetanus bacilli can be injected into the tissues, not accompanied by debris and dirt, and rarely will there be any inflammation, but if we carry dirt with the germ infection follows. The pouring out of debris from the intestinal tract makes a fertile field for these bacteria, and should nature not be powerful enough, on account of shock or lowered vitality, to bring about the rapid destruction of the colon bacilli, then a general pruritus will ensue.

Like Dr. Samuel, I do not believe the mucous membrane can possibly block up a hole in the intestines sufficient to prevent the escape of gases or fluid, and where the hole is large enough for gases or fluid to pass through, of course we have millions of bacteria passing out also.

The question of the explosiveness of bullets is very interesting to me, especially at different ranges. Dr. Samuel brought that out very clearly. As to the calibre, the size and the raggedness of the wound depending, to a great extent, upon whether

or not the organ contain blood or fluid, we know that the explosiveness of small jacketed bullet produces little destruction. That is, the revolution around its own axis is so close in line that only a very small area of the bullet comes in contact with the tissue, and when the bullet has a great deal of energy, it passes through the tissue without losing much energy. If the bullet strikes a resisting structure the destruction depends on the amount of energy the resisting tissue extracts from the bullet. Each small detached piece of tissue accumulating energy from the bullet, becomes a secondary missile tearing through structures giving to wound their ragged appearance.

DR. J. M. MORRIS: I think we will all agree that Dr. Samuel has given us a very interesting, as well as instructive paper on this subject. Of course, the subject of gun-shot wounds is only of general interest to the general practitioner, yet I feel that we should all know enough about such injuries to render the best aid possible until the surgeon arrives. We are frequently the first to see the patients, and as in any other surgical condition, the physician should be capable of rendering efficient first aid.

In the little experience I have had in gun-shot wounds of the abdomen, the point that has impressed me most is the uncertainty as to the course of the bullet after it has entered the abdominal cavity, notwithstanding the teaching of the essayist to the contrary. It seems to me that it is a very uncertain proposition as to where the bullet will be found. I would like to illustrate this point by reporting a case which came under my observation a few months ago.

One night I received a telephone message from the country to the effect that a man had been shot and would be sent here on the midnight train for treatment. I arranged for him to be taken to one of the hospitals here and asked Dr. Hendon to see the patient with me. When the patient arrived I examined him and found that he had been shot about an inch to the left and two inches below the umbilicus. The indications were that the bullet had passed directly into the intestines. We proceed to open up the abdomen, but after getting through the walls, we lost the track of the missile. Still believing that it had gone into the cavity, the peritoneum was opened and some blood was found on the inner wall of the peritoneum, and yet no perforation of the peritoneum could be located. The intestines were examined carefully and no injury found. The incision was then closed up, the man put to bed and for the next thirteen or fourteen days

seemed to do well. At the end of that time he prepared to leave the infirmary for home. After he had been up a short time he began to complain of difficulty in passing his urine and had to be catheterized. Then he began to complain of pain in the region of the bladder and rectum, and it was found that an ischio-rectal abscess had formed which was opened and drained, and again the man seemed to be on the way to recovery. He went along for two or three days, at the end of which time general sepsis set in, and he died. The case was turned over to the coroner and at the inquest a very peculiar and unexpected thing developed. The coroner was unable to trace the course of the bullet further than through the peritoneal wall, but after a long search, extending over an hour, the bullet was finally located on the same side as the wound of entrance, imbedded in the ilium just below the crest. Then some of us took the position that the abscess which had formed and which we believe had been the cause of the man's death, was entirely independent of the gunshot wound, and we so testified before the jury which tried the case. The man who did the shooting had been indicted by the grand jury for murder, and we impressed this fact upon the jury so thoroughly that they dismissed the man as not guilty.

There was no evidence of any relationship between the bullet wound and the rectal abscess. The man had apparently recovered from the bullet wound before the abscess formed.

I mention this case as bearing out the statement first made that the course of the bullet is always uncertain, and that the appearance of having penetrated the bowel is not always evidence that it has done so.

DR. WM. A. JENKINS: I have listened with both pleasure and profit to Dr. Samuel's excellent paper.

I would ask Dr. Samuel to state, in closing, what, in his experience, are the possible factors in the deflection of a missile which enters the abdomen in this way; whether they would be likely to penetrate the solid intra-abdominal organs more readily than structures like the intestines, and whether the conditions of the hollow viscera would have any particular influence in deflecting the course of the ball; that is, whether they contain fluids or partial solids?

DR. T. P. SATTERWHITE: I think we will agree that Dr. Samuel's paper has been exceedingly interesting and profitable.

There is one thing that I think is absolutely certain—no exploratory probe is satisfactory. You cannot tell, by exploring

the wound with a probe, whether the bullet has entered the cavity or not. In several cases I have not been able to put my probe in any farther than the skin. In my opinion, in all wounds in the abdomen, the abdomen should be opened to tell whether or not there is any injury to the bowel. That is the safest plan.

DR. J. R. WATHEN: I have listened with a great deal of pleasure to Dr. Samuel's excellent paper, and find very little to criticise.

One point I wish to mention is the character of injury produced by these projectiles. It has been my pleasure in my school work to carefully tabulate the various projectiles used by the armies of the world, from the musket ball used in the 50-calibre rifle at the beginning of the Civil War down to the most modern Springfield; likewise, revolver cartridges, beginning with the 45 Colt to the Colt automatic 32-caliber. I think we should look upon damage done to the intestines as many kinds. The bullets used during the Civil War and those in use to-day are so widely different that they are bound to produce different results, both pathologically and surgically.

Another point is that conclusions in civil practice are bound to be based upon a very limited number, consequently, we must accept the statistics of military authorities, and those which we accept to-day as the best are European and not American. I was rather surprised to hear Dr. Samuel's and Dr. Allen's remarks in regard to the explosive effect of bullets. This originated in America. It is a fact that is accepted by the most modern authorities, that whenever the explosive effect occurs it is simply due to some structure in the way as bone fragments, etc., and making the mush-room effect.

There are one or two points regarding statistics to which I wish to draw attention. One is that, in injuries to the small intestines during the Civil War, the mortality was 100 per cent. During the Spanish-American War, with modern ammunition and improved weapons, the mortality was 66.6 per cent. In civil practice the latest quoted statistics show the mortality to be 48 per cent., which is quite an improvement. It is interesting to note Makin's conclusions in his statistics of the Boer War which were carefully compiled by him. If Dr. Samuel has no objections I will read a few of them. He says:

"From this analysis it appears clear that perforating wounds

of the small intestine are very fatal injuries; every patient in whom the condition was certainly diagnosed died."

Concerning the explosive effects of bullets he says: "Explosive exit apertures are, however, described as occasionally occurring in injuries involving the soft parts only." "I saw no cases substantiating this belief." "I never saw any case of so-called explosive lesion of the liver, such as have been described from experimental results."

DR. A. D. WILLMOTH: I think Dr. Samuel has given us an extremely practical paper, and I want to indorse what he has said in that paper. All that remains is to emphasize some of the points which have been brought out.

One point I think should be emphasized is the fact that the symptoms presented by the patient at the time he is seen by the surgeon cannot be taken as an indication of the injury present in the abdomen. The patient may have practically no symptoms, and still have a number of perforations of the gut. I believe it is a prevalent idea among physicians that persons with injuries of the intestines will show some evidence of shock. The essayist spoke of this, and I fully agree with him that these patients do not always present evidence of shock by any means; in fact they rarely do, unless sufficient time has elapsed for hemorrhage to have taken place in the abdominal cavity. Many of them present absolutely no symptoms of shock, and yet may have a number of perforations.

I also agree with the essayist in his statement that every gun-shot wound of the abdomen should be explored, and the sooner the profession at large recognize this fact the fewer people will die from gun-shot wounds of the abdomen being delayed.

Just a few days ago a case was brought to my attention in which the patient had been wounded by a revolver shot, at an unknown distance, the circumstances being such that it was not known exactly where the shot came from. This patient was chloroformed and the wound probed in the manner mentioned by the essayist. He was shot in the rear, some few inches to the left of the sternum, and the bullet was found under the skin in front.

At the post-mortem it was found that a button-hole had been cut out of the transverse colon, showing that the bullet had gone through the cavity and had merely button-holed the gut. The patient died some eight or ten hours after he was wounded. This case emphasizes the fact that probing is not only a very

uncertain procedure, but a very dangerous one, and that all wounds of the abdomen should be explored.

So far as telling the number of perforations by the position of the wound is concerned, that is a very poor rule. I saw at the City Hospital an anterior posterior wound with seventeen perforations. Wounds of the cavity, wherever located, do not indicate the number of perforations present. If the missile has penetrated the cavity you can figure that it has perforated the gut in nearly every instance.

I also wish to agree with the essayist in regard to the special preparation of the patient and proper handling of the abdomen. I am quite sure many cases are killed by careless handling before the surgeon gets to them. Rough handling of the patient tends to cause leakage in the gut, which may destroy the patient's life even after he is operated on and the leakage stopped.

I wish to thank Dr. Samuel for this most excellent paper. I am sure all of us have benefited very much by it.

DR. SAMUEL (*closing*): In regard to the point made by Dr. Satterwhite, I think he is quite right. Many years ago I used to probe bullet wounds, but you cannot get in very far, and even after you get into the cavity and find it penetrated, you are in the same position as before.

In regard to Dr. Jenkin's question, I will say that, as has been mentioned, all viscera which are fixed are more readily penetrated than those which are movable.

It does not make any difference to me what Dr. Wathen says or what the author he has just quoted says; it is a fact, proven by experiments with modern firearms, that the wound of entrance does not give you one particle of information as to the immense amount of destruction that has been done in the cavity. Whether or not this is to be explained upon the theory of explosion is a question, though we now suppose it to be. It is my opinion.

In the last few months I have been making some experiments along this line on a rifle range, with modern firearms, firing a bullet through a can of water at different ranges. At close range we could not find the can or any part of it. At 200 yards the can would be torn open and the water spilled. When we took that same can and fixed it, and fired a bullet through it at long range, we found a smooth clean opening through it. This is a fact which has been demonstrated by us in the past few months with modern firearms. It demonstrates just what I have said and what Dr. Allen has just explained. Rapid death

after a gun-shot wound is not so much the result of shock, but the infection agencies that occur, unless hemorrhage is so great as to be a factor in the immediate cause of death.

Just one point in regard to Dr. Morris' case. He does not state the position of the man when shot at, but I take it the bullet must have passed obliquely through the cavity.

The wound of entrance upon the inner surface is sometimes so small and ill-formed as to be absolutely overlooked. As to whether it injured any portion of the rectum, or sigmoid flexure and infection occurred between the layers of the peritoneum allowing the escape of fecal matter followed by rectal abscess, it may be that, after the patient had apparently recovered and abscess formed.

THE CONDITIONS WHICH MODIFY OPERATIVE WORK.*

BY A. D. WILLMOTH, M. D.,
LOUISVILLE, KY.

THERE is no condition requiring more thought than those which modify operative work. Some of the best men in this country, and in the world, have given years of study to these important subjects, for it is a sad ending to a successful operation to loose the patient with some complication for which the operation was not intended to relieve.

The pathological condition for which the patient consults the surgeon is by no means the only thing to be look for in those presenting for operative work, for in many of these with conditions that warrant operation there is also present independent and sometimes serious affections that should modify and in many instances entirely control the decision as to operation.

Our text books of surgery which are generally taken for a guide are markedly deficient along this line, and the man with a limited experience is left almost entirely upon his own resources at arriving at a conclusion, and, to say the least, is very much handicapped as to the procedure to advise, and, while I deem it inadvisable as well as im-

* Read before the Louisville Clinical Society, March 2, 1900.

possible to lay down fixed rules to be followed, I will attempt to mention such things as are known to have a direct bearing upon the cases.

Heart Diseases.—One of the first questions put to the surgeon by the patient when operation is suggested is, do you think my heart will stand the anæsthetic? This question has been so well grounded in the minds of the laity that it is paramount above all others, and we, as physicians, have been taught from time immemorial to dread the giving of anæsthetics to this class of patients. My own experience, and I believe statistics generally will bear me out in saying that valvular murmurs have been very much overrated in weighing the evidence for or against operation. Later investigations have proven that it is rare indeed that one of these patients die from the anæsthetics, but, on the contrary, it is the seemingly healthy, robust individual with no symptoms that succumbs to a few whiffs. I have never seen in my own practice, neither can I recall an instance in the practice of any of my colleagues where a patient with a valvular lesion that was plain to be heard, one whom the anæsthetist dreaded, that had any trouble.

It may be said in broad terms that all valvular lesions (except aortic regurgitations) that have been compensated for, occurring in patients under forty years of age do not contra-indicate operative work.

The most common lesion of all is the one heard over the apex and with the first sound of the heart and transmitted under the left arm to the scapulæ (mitral regurgitation), the patient's general condition being good, such lesions need cause no alarm, the same being true of mitral stenosis.

Aortic regurgitations are far more serious, but, when appearing in young persons, can be handled nearly as safely as mitral troubles if the proper care is exercised, but when present in old patients and in those representing a sclerosis of the peripheral vessels, we should consider well before advising them to undergo any operation, and,

as a rule, should only be submitted to operation for emergency and life-saving measures.

Other valvular lesions occur with such infrequency that no fixed rule can be laid down, but any lesion, even though the heart is compensating for it in patients over forty, should be regarded as serious, for in most instances we are not confronted with simple valve lesions or trouble in the heart muscles, but by a complication of conditions.

Lesion of the mitral valve with a moderate myocarditis take anæsthetics well, other things being equal, while aortic lesions with advanced myocarditis should be looked on seriously. The surgeon should withhold his opinion until the kidneys have been carefully examined and the blood pressure taken, for in the first instance those with marked lesions that can be heard easily with little or no kidney complications make a good risk, and in those of more advanced kidney complications, if it is shown that the cardiac action and the volume of the pulse at the wrist are in direct relation to each other, we are safe in saying that the patient has a sufficient cardiac force to stand the extra strain that will be placed upon it in doing an operation of ordinary severity. If the heart's action is tumultuous and the pulse weak at the wrist such patients should be regarded as bad risk and operated on only as life-saving measures. The heart should be examined for regularity. Irregular pulse is far more serious, even though it be strong, than a regular pulse that is weak.

In chronic conditions a pulse rate of more than 120 should contra-indicate operative work, but in acute conditions, where the operation is little more than opening an abscess, a patient may be a good risk with a pulse of more than that rate. Patients with a normally slow pulse of say forty to fifty, if regular, make good risk.

All conditions of the heart that show incompetency should contra-indicate operation. If operation has to be performed it should be limited to palliation, and under no circumstances done for chronic conditions, unless we except uterine fibroids. Here we are many times forced to operate to relieve or to limit the heart conditions, and a

heart that would contra-indicate operation for carcinoma would not contra-indicate operation for fibroma.

We should also remember that operations in the upper abdomen make greater risk and try the heart more than those in the lower abdominal zone.

Kidney Lesions.—As Sheldon has well said, the significance of these lesions depends on the degree and variety of the kidney changes, the existence of diseased conditions in other portions of the body, the severity of the operation contemplated, and the relation that exist between the disease requiring the operation and the nephritis. Patients that are the subjects of acute Bright's disease seldom ever come to the operating table—they either die or the condition becomes chronic before the surgeon sees them.

It is not uncommon, however, for patients with suppurative conditions to come to operations. They should not be given a general anæsthetic if it can be avoided, and the operation should be made as short as possible, thus avoiding hemorrhage and shock, and where the operation is not for the relief of some condition that acts to cause the kidney trouble you have very materially increased the patient's chance for recovery by so doing, but if the operation is for the relief of tumor or adhesion, etc., that cause or aggravate kidney trouble, we have a condition where operation is always indicated, and time should be taken to relieve the condition.

The decision as to operate work is often very hard to reach in those of the border-line cases, those showing small amount of albumen with some cast.

The albumen in many cases will entirely disappear if the patient is kept quiet in the infirmary and the proper diet given. Hyaline and granular cast may almost or entirely disappear in a short time under a proper care, or if they do not and the patient's heart and vascular system have not undergone too great a change operation may be undertaken with safety. Degenerative cast are far more serious, and when the pulse show high tension and heart changes have taken place, even though there is no albumen, the patient should be looked upon as bad risk, and

if operation is done at all it should only be undertaken after the most careful and repeated analysis of the urine has been made.

To sum up my experience has led me to be in thorough accord with the French Urological Society, in saying that the amount of urine passed and the amount of urea contained in the twenty-four hours should be the guide, small per cent. of urea that cannot be increased make the case of extreme character most of which will die of uræmic coma within seventy-two hours after operation.

Pyuria.—This may be of various significance, it may contraindicate operation, while on the other hand it may not influence it in the least, the character of the work to be done will determine.

Glycosuria.—If transient does not mean very much, and with proper diet and rest can be shown to be only transient, and operation, as a rule, done without anxiety. Recent observations have proven that the amount of sugar found in the urine does not influence the case as much as was formally supposed.

Other things have been proven to be far more dangerous than the presence of sugar. These things hinted at are the so-called acetone bodies (acetone, diacetic-acid, and beta-oxybutyric acid) these are responsible for the post operative coma that is always feared, the oxybutyric-acid being the most dangerous of them all.

It has been said by Kelly that 0.02 gram in 50 cc. of urine will give rise to symptoms. He has given the following test which I take the liberty of quoting. "To detect acetone, take 5 cc. of urine, add enough sodium hydrate to render it alkaline, add a crystal of sodium-nitroprussiate and shake well, upon the addition of glacial acetic acid the foam will become purple if acetone is present."

Diacetic acid manifest itself by the urine turning a burgundy red color treated with a very dilute ferric-chloride.

Ruff has made the statement that coma will more than likely appear if the daily excretion of ammonia reaches two grams. The condition known as ephemeral glycosuria

where as much as one per cent. of sugar is found in the urine in those who have suffered a fracture or had a strangulated hernia is transient, and need not alarm the surgeon.

A review of the above facts studied in connection with the number of cases collected by Noble, Phillips and others, will prove to the minds of the most skeptical that diabetics are not so dangerous to operate on as at one time taught.

The statistics at hand are based largely on the experience of surgeons dealing with suppurating conditions and not with an aseptic wound. While we are perfectly willing to admit that this class of cases is of unquestionably low vitality and should not be operated on except for the relief of accidents or life-saving measures.

If such has to be done not over 25 per cent. should prove fatal if properly handled. Diabetics who have more than 2 per cent. of sugar in the urine that is excreted to the amount of three pints in twenty-four hours should not be operated on. Less than this amount may be submitted to operation if the operation promises complete relief and the condition for which we operate is of such character as to threaten life.

Shock.—This condition and its relation to surgical procedures applies almost exclusively to the treatment of accidents and injuries.

No surgeon should be guilty of doing more for any patient that is in profound shock than to stop the bleeding. In former years before this condition was so well understood many patients no doubt lost their lives through the kindness of the surgeon who, in trying to remove a mangled limb, so increased the shock already present that recovery became an impossibility. We should always bear in mind the fact that the limb is not going to rot off in a few hours. When this is done many patients who were at one time operated on will be put to bed and morphine, saline sol, adrenalin with external heat will be used until the patient rallies and an operation safely done. If an

immediate operation is decided on it should be done under a local anæsthetic.

Hæmorrhage.—The question of operating on patients who, as the result of injuries, have lost, and are still losing, large amounts of blood, be answered in a few words, hæmorrhage being a positive indication for operative interference always. If the bleeding is from such a source that it cannot be controlled by constriction or compression, we are forced to resort to such measures as will enable us to reach the bleeding vessels. I wish to state most positively that the indications stop at this. While there may be more work that needs to be done, it should not be included in the primary treatment. After the bleeding has been controlled such measures as are known to sustain the patient should be used, viz., transfusion, stimulation, etc., such measures being harmful till the bleeding is stopped.

Operations for pathological conditions that are producing hæmorrhage may be called for at any time regardless of the patient's condition. Such cases should have the work deferred as long as possible, not allowing the condition, however, to progress far enough to cause the second hæmorrhage if it can be avoided.

Anæmia.—It is often a very difficult matter to determine the exact bearing that the anæmia has on such individual cases. A slight anæmia in one case may contra-indicate any operative procedure, while a pronounced anæmia in another case may not weigh so heavily. If the anæmia is acute and of short duration, even though it be severe, it need not interfere, as a rule, with the surgeon in his work. On the other hand, if the anæmia is of long standing it should demand his foremost thoughts. The teaching of Mikulitz, in my judgment, has not been improved upon, and I shall quote him freely. Operation for a life-saving measure may have to be performed with the blood in almost any condition, but operation of election on patients whose per cent. of hæmaglobin falls below fifty should be considered seriously. If as low as 30 per cent. no operation should be performed until the pa-

tient has had such treatment as will raise it up to or above 50 per cent. If this cannot be done, any work should be left alone.

The Nervous System.—Conditions of the nervous system seldom play any part in deciding for or against operation that is made necessary by accidents or acute conditions, but in chronic conditions I am fully convinced that most surgeons do not give this subject the attention it justly demands.

While it is true the mind does not influence altogether the healing of wounds, it is equally true that it does have some influence. Two classes of cases illustrate this conclusively. First, it is a well-known fact that wounded soldiers belonging to the victorious army do better than those of the opposing side. This is explained by the condition existing in the second class known as the melancholic, who have fixed their minds from the very beginning that they are not going to recover, hence no effort is made on their part to aid the surgeon. It must also be remembered that one-half per cent. of patients who undergo gynecological operation develop insanity either temporary or permanent. Patients who state they have trouble in sleeping should be regarded with suspicion since many of them are the so-called night drinkers, and when asked about this, deny it altogether, or say it is used only at times, when closer examination reveals they have all the vascular changes commonly seen in such cases, and many will develop delirium tremens after operation.

In those females who are the subjects of hysteria there was a time when the genital tract was looked upon as a causative agent in a large per cent. of these cases, and there is no doubt but that in some of them the cause can easily be found in this region. My position in these cases can be impressed in very few words, viz: nervous individuals of this character or those who have gone further to the point of insanity, are entitled to just what sane people are entitled to—nothing more, nothing less.

If there is a pathological condition existing that we know to be the source of the irritation or giving these

patients more or less pain or liable to undergo degenerative changes and become malignant, they should of course be promptly removed, but to remove tubes, uteri, ovaries, for such conditions as hysteria should not be done. As was so well expressed by Henrotin, of Chicago, no one can tell what a nervous woman is going to do. While it is true they may be benefited for a considerable length of time, many of them will lapse back again into the old condition or even worse if such is possible in few months after the operation. This temporary relief is accounted for by the shock of the operation and the preparation necessary for the operation, which causes, as the Mayo's have said, an equal distribution of the secretions of the ductless glands, or in other words as they have expressed it an evening up of all the glandular secretions of the body which makes the patient feel better for the time being, but this is only temporary and should not be an indication for operative work.

Patients whose family history suggest mental conditions bordering on insanity should, as a rule, not be submitted to operation. Even the taking of the anæsthetic has been known to be followed by insanity in such cases.

Bleeders.—I dare say few surgeons take the trouble to see if their patients are bleeders before operative measures are undertaken. It is true these conditions are rare, but are serious when they do occur. My experience in this class of patients has been limited to two, and I hope these are all I shall ever see. One of these was an abdominal section dying after the abdomen had been opened the fourth time in an attempt to stop the bleeding. The second was in a child of three years old for a hematoma over the left eye, where I succeeded in controlling the hemorrhage after the patient was almost completely exsanguinated.

I fully agree with those who have studied the question closely that hemophilia should be operated on only as emergency work; operations of elections should never be thought of as the most trivial measure may be followed by fatal hemorrhage. Stucky has reported a death following a tonsillectomy, and others have been reported follow-

ing the removal of adenoids. I believe we should always look for this condition before advising patients to undergo any kind of operative work, to see if we can find where they have at any time had trouble in controlling hemorrhage from an accidental wound they have received. If so the use of calcium chloride or lactate in cases where operation have to be done, will, in my opinion, give some protection to the complication we will meet. My advice is to let such patients alone, only doing operative work when imperative and of a dernier resort. When it is done women stand it better than men; this condition should also be looked for in the negro race.

Cachexia.—Malignant disease advanced to the stage of cachexia usually contraindicates interference. Little or nothing can be expected so far as cure is concerned. There are certain conditions however that arise during the progress of malignant growths that to my mind are not entirely dependant upon the extent of the growth that calls for operative interference. I speak of superficial ulcerations, the highest type of which is found in a cancerous breast that has become infected and is breaking down. Here we have a dirty foul smelling condition that is almost unbearable, not only to the patient but to those in attendance. Even though such patients are markedly cachectic and far beyond the period where cure may be effected, an operation removing this foul mass is indicated for the reasons that by removing the infected area you reduce the patients source of fever and depot of infection that in a very great measure causes the cachexia, and last but not least you convert the large ulcerative area into a clean and skin-covered scar or wound and entirely relieve the odor. Again the malignant growth may be so located as to produce pain of sufficient severity to require its removal. They may be so located as to mechanically threaten life, examples of which are seen in carcinomas of the bowel where intestinal obstruction is threatened, involvement of the urinary tract causing retention, involvement of the larynx producing asphyxia. Such patients should be given palliative operation regardless of the condition.

Pregnancy.—Pregnant women, as a rule, stand operation fairly well. It has been my good fortune to operate on several such patients, two of which were myometomi, without even having a miscarriage.

Still I believe pregnant women, unless conditions exist that threatens to terminate the pregnancy or prove serious to the mother, should be allowed to continue until after the confinement. Pregnant women who are the subject of malignancy in its early stages should, of course, be operated on at once if the child is under the age of viability, the mother in such cases being the one to whom we direct all our attention. While later on in the malignancy where we cannot hope to give the mother a cure, merely being a palliative measure, then the child should receive the greater part of our thoughts and only such measures used as will not threaten its life.

Tumors that involve the lower genital tract which preclude the possibility of delivery are not, in my opinion, reasons for operative intervention, for, with our knowledge of asepsis and our knowledge of dealing with conditions in the abdomen, cesarean section can be done with such low mortality to both mother and child that it should always be advised in preference to any measures that will destroy the life of the child, even though they hold out greater hopes for the mother.

Operations on the fallopian tubes in pregnant women seldom have to be done for the reason that tumor springing from these structures are usually high, and do not interfere with delivery, but, should they give trouble as in twisted pedicle of ovarian cyst, or the abdomen have to be opened for other conditions, there is no reason why we should not remove them, as the pregnant uterus lends itself kindly to gentle handling, and if not too greatly disturbed uterine contractions will not take place. Operations on the female breast can be done without subjecting the women to any great risk unless operative procedures are unnecessarily prolonged or work done immediately after confinement, then the work should be let alone until the secretion can be dried up.

Age.—It is well known that children and old people stand operations poorly; that they stand the loss of blood poorly; that children reacts unfavorably to operations and injuries of any kind for the reason that the central nervous system is immaturially developed and not in condition to stand the shock sustained.

Little children are good subjects for general anæsthesia, and this is about the only thing that can be said in their favor in an operative way. They are good subjects for anæsthesia for the reason that in early life the central nervous system is well supplied with blood. While these facts are conceded, yet they are not good surgical risk. Operations on children under the age of three should be left alone except for hair-lip or cleft palate; there, all agree it should be done in early life. In my opinion hernia should be left until the child has gotten to the age of four or five, at the same time a chance can be given to see what truss treatment will do.

This has been studied very closely by Coley, and the above opinion coincide with his reports. The aged stand operative work poorly for the reason that they bear about the same relation to surgery as the child; degeneration in them is far in access of regeneration. You will find them hard to revive after anæsthetics, and much depression following operation; the mortality is necessarily high. Again, changes have taken place in their blood vessels and their internal organs, particularly the kidneys and liver. This is especially important to the surgeon, for even though they survive the immediate effects of the operation, complications will arise which the anæsthetic has induced. Local anæsthetics has eliminated many of the dangers here referred to.

Obesity.—Fat patients are bad risk for long and serious operations; as a rule, they take the anæsthetic badly, have low resisting powers as a result, react slowly the presence of fat in the wound, makes the presence of infection more probable, and lastly post-operative pneumonia is commonly seen in this class of patients. Later in life these patients present hearts with little reserve force. This

class should have special care and their heart muscles looked after before operation is attempted.

Syphilis.—Patients suffering with this disease stand operations and anæsthetic without any special difficulty. Those with acute form should be operated on for life-saving measures, other operations deferred until the disease is under control.

Tuberculosis.—This class of patients usually stand operations well, especially if the operation attacks the tubercular infection. If it is for some condition independent of the tubercular infection the result will depend upon the extent of the involvement. Patients who are far enough advanced to have marked changes in their general condition should, as a rule, be left alone.

DISCUSSION.*

DR. W. H. WATHEN: This is a very interesting and practical paper, and embraces so many questions that it is possible to discuss only a few of them. It reminds us of our duty to avail ourselves of every possible means to discover conditions that contra-indicate a surgical operation. I agree with the essayist that valvular heart murmurs are not, as a rule, contra-indications to operation. I have operated on many patients in whom these valvular sounds were very marked, and not an untoward symptom followed, but if the muscular structures of the heart are involved, then we have trouble. This is particularly true in fibroid tumors of the uterus when either myocarditis or a fatty condition of the heart is present, especially if the patient has lost much blood prior to the operation. As a rule, however, these patients will not die if you remove the tumor per vaginum, exposing but little of the peritoneal structures.

While a cachectic condition in malignant diseases may appear to contra-indicate operation, it is not a positive contra-indication. About fourteen years ago I had a case in the person of a prominent woman here, who was so cachectic and had lost so much flesh that I operated under protest. There was a cancerous mass in the vagina as large as a turkey's egg. The operation was done per vaginum and the woman recovered and has had no evidence of any trouble since the operation; in fact, she has enjoyed better health from that day than she ever had before.

* Stenographically reported by H. S. Smith, Louisville, Ky.

Sixth months ago I operated on a woman with a very extensive cancerous growth, where I had to curette away a great handful of cancerous tissue and then go above and enucleate, the cancerous area, dissecting the cancer off the ureters. This woman had no untoward symptoms and made a good recovery.

Just in this connection I will say that many surgeons operate upon patients when there is a contra-indication to operation of which he ought to be aware and which should deter him from operating. Unfortunately, there are many surgeons who operate on patients when there is no real indication for operation. They are more apt to err by operating on patients who should not be operated on than by not operating on patients who should be operated on.

While Professor Martin, of Berlin, was my guest last April he operated, per vaginum, by his own peculiar method, removing a large fibroid tumor with perfect success, without any elevation of temperature or any material change in the pulse. I believe that the patient would have died had she been operated on by the abdominal method. Shortly after that I removed a tumor twice as large as a child's head from a woman who had been in the habit of drinking a great deal of whisky for a number of years. She was very anæmic, having lost much blood, and was a bad subject in every way, but she made a good recovery, and I am sure she would have died had she been operated on by the abdominal route.

DR. JOHN R. WATHEN : Dr. Willmoth has presented a paper which should have the attention of every one doing surgical work.

The most important contra-indication to surgical operation in my personal experience has been one that is seldom taken into consideration by the average surgeon ; that is, the mental condition of the patient as regards the particular operation. When an old man comes to you with an enlarged prostate, tells you that he has made his will, and says he expects to die as a result of the operation, no matter what his physical condition is, you had better let him alone. Now, whenever you see a patient with some pathological condition and he comes to you saying, " Doctor, I expect to have this condition cured ; I have made big plans for the future and I expect to live," take him, he is a good risk.

Another point, in regard to the psychological feature in operation for goiter, Dr. Crile first called attention to this. He says

in many of his worst exophthalmic cases he would tell the patient that the operation would be done in several stages, and this kept the patient from being frightened, and the gland did not pour out that powerful toxic secretion. In this way he secured results that he could not have obtained if he had told the patient that he was going to remove the gland entirely at one operation.

One of the most important contra-indications for the operation is exophthalmic goiter, in my own experience and that of others, is the high pulse. If you will take an exophthalmic goiter case and place the patient in the hospital for a week or ten days prior to operation, with absolute rest in bed and other remedies given for this condition, you can reduce a pulse running from 160 to 200 down to 100 or less, and you will have good results in every case. In those cases where you cannot get the pulse lower than 110 to 120, you will find that they are bad risks. All of my fatal cases have been those where the pulse was 150 or more, and I was unable to reduce it lower than 120. In one case I had the pulse was 180 and I succeeded in reducing it below 100, and the patient made a nice recovery.

DR. W. A. JENKINS: To the many excellent points which the essayist has mentioned as contra-indicating surgical procedures I would simply add one; that is, I believe operative procedure for any condition is contra-indicated whenever the end desired can be obtained as favorably or as well by any other possible means. One of the best general practitioners in the United States of America, in writing a book a few years ago on diagnosis and treatment, made the statement in his introduction that, through enthusiasm and misguided judgment much needless, superfluous and even injurious surgery was indulged in, and I noticed in the last issue of the *Journal of the American Association* that a gentleman of surgical reputation sounds a note of warning, saying that medical students and young medical men of to-day have the idea, produced by the preponderance of training in school, that there is nothing worth while except surgery, and that after they have spent a year or so as an interne in some first-class hospital, they are sure of it, and when they go out to equip an office they usually buy the most expensive surgical outfit they can procure. While I believe this is perhaps an exaggeration, it certainly contains a grain of truth that ought to sink home with every one of us. I think all surgeons should keep before them this point, that when they resort to surgery

they acknowledge themselves defeated, and they should only institute surgical procedures as a last resort.

DR. H. N. LEAVELL: In consideration of this subject the essayist has taken thoroughly into account the fact that, no matter how serious the contra-indication for operation through any extraneous influence, the operation itself when performed for some condition in which it may give the patient relief, or may save his life, should always be done. I think that is the keynote, and I agree with the essayist thoroughly on that point, but I also agree with Dr. Jenkins, that a great deal of needless surgery is done. As I look back, I am sure there are some cases which I operated on in my early experience, ten or twelve years ago, that I would not operate on now. I remember one case in which I removed both ovaries and the patient developed a post-operative mania and all the sequelæ that go with that sort of condition. If I had to operate on that patient at the present time I would not remove the ovaries, thus saving many nervous symptoms and a great deal of ovarian tissue.

The trend to-day seems to be toward conservatism, and the many points that contra-indicate operation are being given more and more consideration, and less and less surgery is being done for conditions that can be relieved in any other way.

In consideration of the heart we should take into consideration the amount of resistance the heart is able to overcome, remembering at all times that there is an increased amount of resistance to be overcome in any operative procedure. The mental condition of the patient may have some influence in a myocardial condition. I think this can be lessened to a great extent by the use of gas anesthesia in combination with oxygen. In the last year or two I have seen a great many operations done under this anesthesia, which were necessary for the prolongation of life, and which could not possibly have been done under local anesthetic. Nitrous oxid gas and oxygen, I think, will help the surgeon out a great deal.

The point Dr. Wathen made about the mental condition of the patient is, I think, important. The fact that the patient feels he is not going to get well seems to have a bad effect, not only on the heart muscles, but on all the metabolic changes in the system.

On this point, I think we are bound to acknowledge that Dooley was right when he said, "If the christian scientists had more science and the doctors more christianity, it would not

make much difference which you called, so you had a good nurse.

DR. J. W. IRWIN: I regret that I did not hear the paper, but I gather from the discussion the nature of the essay. Our essayist must have had a vision in the night. The condition of things existing heretofore, touching the question of surgery, was sure to take a turn; it could not be tolerated forever. Therefore, as I say, the essayist must have had a vision in the night, but if his ideas were carried out as he submits them, he would destroy surgical practice; it would be absolutely impossible to do any operating worth speaking of. If surgeons would take a calm, deliberate view of every case that comes before them for operation, and general practitioners, who are supposed to be diagnosticians, would take a calm deliberate view of every case that comes before them, and consider whether or not they are cases that should be referred to the surgeon—instead of immediately turning them over regardless of their condition, because there is some indication for operation—much good would be done the profession as well as our patients. Errors will creep in on both sides, of course.

One of the speakers to-night mentioned the mentality of the patient from a surgical point of view. This is not new. Sir Thomas Watson, Dr. Graves, and our own Dr. Flint elaborated largely on that point. They said if you have a patient who is frightened about himself, although it may be a very trivial illness, always give an unfavorable prognosis in that case, because they nearly always die. On the other hand, if you have a man who says he is not going to die, and he is the sort of man to attempt to get well through his mentality, he will nearly always recover. Dr. Wathen has spoken along the same line and I know, after considerable experience in the practice of medicine, that these are facts.

If Dr. Willmoth's views could be carried out, two-thirds of our patients would be dead or well before operation could be reached. May die as a result of the surgeon's knife, and many would get well if the surgeon's knife was not employed. If a man is studying one point he is apt to see everything along that line more acutely than if he considered all the points surrounding it, or asked advice of those capable of giving advice on those points. I think Dr. Willmoth has started a new era and I am with him in everything.

DR. G. S. HANES: Just one word in regard to the adminis-

tration of anesthetics in cases where operations are contraindicated. If I understood Dr. Willmoth correctly he made the statement that a pulse rate of 40 to 60 he considered good. I believe, taking everything into consideration, that the most dangerous class of patients to whom we have to give anesthetic is just this character of individuals. Those people in whom the normal pulse rate is slow are easily depressed, and we find it almost impossible to carry them through deep anesthesia without exposing them to great danger. I would much rather administer an anesthetic to a patient with a pulse rate of 120 to 130. They are less dangerous than the other class, everything else being equal. In those people who have a slow pulse rate the nervous mechanism is in such a state as to be very easily depressed, and they are especially dangerous risks for chloroform anæsthetic.

DR. WILLMOTH (*closing*): I wish to thank the members of the society for their discussion.

Dr. Irwin spoke of the practitioner's views, and said that if the ideas expressed in the paper were carried into effect it would eliminate two-thirds of the surgical work. I think if he had heard all the paper he would have had a little different idea of it, because I did not intimate that many of the conditions, of which he just heard the last, were to be considered as positive contra-indications, but were merely to be taken into consideration.

I am fully aware of the fact that men who are constantly coming into contact with anæsthetics soon become educated as to the indications and contra-indications for giving anæsthetics. It has not been a great while ago since I had a patient who had a beginning tubercular condition of the fibula, and because he had a slight valvular lesion he had been told by a half dozen doctors that if he ever smelt chloroform he would never recover, and the result was that he soon had tubercular involvement up to the knee, and I amputated up to the knee, but he had this idea so thoroughly instilled into him by so many doctors that he would not allow me to touch him until driven to it by his frightful condition. That was one case in which, had it been known that a mitral regurgitant did not contra-indicate operation, the patient would have been better off.

In regard to shock, many cases have been operated on in hospitals in the height of shock, with fatal results, who would have lived had the operation been deferred. Patients are often brought into infirmaries and hospitals in emergency work in the

height of shock, and if left alone for a while until the shock can be relieved, doing only enough work to control the hemorrhage and operate at some subsequent time, the results will be far better.

DR. FLEXNER : What would you do with a patient brought into the hospital in a state of shock from rupture of an appendicial abscess?

DR. WILLMOTH : I would operate ; you would have to take chances on that.

Recent Progress in Medical Science.

VACCINE TREATMENT OF ERYSIPELAS.

The results of the use of a vaccine prepared from Fehleisen's *Streptococcus erysipelatis* are reported and discussed by G. W. Ross and W. J. Johnson, Toronto (*Journal A. M. A.*, March 6). They employed the vaccine in fifty cases, and from this experience they firmly believe that when properly administered it exercises a specific and controlling influence on the course of the disease—preventing its spread, lessening its severity, and hastening recovery. In the first sixteen cases they followed the method of opsonic therapy, but the results were so satisfactory that in the remainder they felt justified in omitting the usual opsonic blood examinations and had equal success in the remaining cases, many of which were severe. They admit, however, that in certain severe cases the usual thorough blood examination may be required. It is unnecessary, they say, to prepare a vaccine for each case, but it is advisable to have a composite stock of vaccine from several different strains and as many different cases and it is probable they think that the more virulent the case of erysipelas the more valuable will its streptococcus be as a vaccine. Their method has been in almost every case to inoculate with 10,000,000 of dead streptococci on the first visit if the case is a severe one and with 20,000,000 if the case is less severe. On the second, in a severe case the patient gets 10,000,000 if there be signs of improvement. The most important of these signs is a certain clearing of the intellect and the next are the lessened tenderness and pain. The temperature is not so valuable, though a fall of two or three degrees on the morning following the injection is a valuable indication for a second inoculation. If, however, no evidence of improvement follows in the severe case

and it is impossible to determine the opsonic power of the blood, then 5,000,000 only should be given on the second day. In less severe cases improvement is almost always manifest on the day after inoculation and the patient should receive but half the first dose; that is, 10,000,000. They then inoculate with 5,000,000, 10,000,000, or 20,000,000 of streptococci on every second day until a week after temperature has reached normal and the erythema has subsided. They are guided as to the dose in each case (when opsonic investigations are impossible or unnecessary) by its severity and the unsatisfactory results as shown by clinical observation. The rule is "The more severe the case and the less satisfactory the clinical response the smaller the dose." The site of inoculation has always been chosen away from the involved area. They have been so successful they have not felt it necessary to attempt inoculation near the site of infection. Nineteen cases observed by them in 1907, which were treated in the ordinary way are tabulated and compared with an equal number treated in 1908, by inoculation and the advantages of the later method in the way of shortening the duration of the disease, avoidance of complication, etc., are very manifest.

TYPHOID EPIDEMIC STARTED BY BACILLUS CARRIER.

L. L. Lumsden and W. C. Woodward, Washington, D. C. (*Journal A. M. A.*, March 6), give the history of an outbreak of typhoid fever, which was confined to the patrons of two dairymen in Georgetown, D. C. In investigating the epidemic it was found that both these dairymen obtained a portion of their milk from a farm on which a typhoid bacillus carrier was discovered and the stoppage of the supply from which caused the cessation of the epidemic. The conditions as to sanitation, etc., on this farm were not altogether satisfactory, but there had been no previous infection traced to it and the individual found to be a bacillus carrier had not had the disease for eighteen years. The question therefore arises whether she had been a carrier all that time, in which case it would seem there should have been trouble before, or whether she had become recently infected and, being immune herself, harbored the germs without incurring the disease. The authors think, however, that one exercising ordinary care as to cleanliness of person, as she apparently did, would not frequently contaminate the milk and, considering the

frequency and length of the intervals in which bacilli are absent from the excreta of pronounced chronic bacilli carriers, a number of contaminations might be needed before infection would occur in which organisms, alive and virulent, and sufficiently hardy to survive, would be introduced into the milk. The contamination with typhoid bacilli once having occurred, it is readily conceivable that the infection could survive on the dairy utensils and so more or less constantly infect the milk for days and even weeks. The victims in this epidemic were mainly free users of milk, women and children being principally affected. Although the infection might not have reached the milk if the sanitary arrangements had been perfect and much greater care been used in its handling, the possibility that there may be typhoid bacilli carriers among dairy employes, and their liability to get infection on their hands, from time to time, should be considered in determining if any degree of cleanliness short of absolute surgical, would be sufficient to safeguard the public. To enforce this in a large city would be extremely difficult, if not impracticable, while official supervision of the pasteurization of the milk supply, if done at distributing depots, would be entirely practicable, much less expensive, and a more certain safeguard against infection.

HEMOLYSIS AND CANCER, ETC.

G. W. Crile, Cleveland (*Journal A. M. A.*, December 12), describes the technic used by him for the determination of hemolysis of normal blood corpuscles by the serum of diseased conditions and *vice versa*. The method is somewhat elaborate, great care being taken to avoid injury to the red corpuscles and properly to control temperature. The normal bloods from several individuals are obtained and tested against each other, as well as against the blood of the patient, to avoid error from any possible abnormality, and all the tubes of the entire test are made up in duplicate and one set subjected to a temperature of 55 c., by which the possibility of error from the presence of inorganic hemolysins can be excluded. Inorganic hemolysins, not being influenced by heat, will thus reveal their presence. The test is made by noting the result of suspending normal red cells in the patient's serum and suspending the patient's cells in normal serum. The results of a study of nearly six hundred cases are given, attention being directed especially toward the reaction in the normal state, in pyogenic infections, in malignant tumors, in

benign tumors and in tuberculosis. No hemolysis was observed in normal cases or in cases of benign tumors. Besides a few reactions in miscellaneous cases, apparently not included in the series, hemolysis occurred seven times in 71 cases of pyogenic infections, 130 times in 153 cancer cases, and 48 times in 52 cases of tuberculosis. It appeared in all of 11 postoperative cancer cases with clinical recurrence, and in none of 37 cases without clinical recurrence. Extracts of malignant tumors uniformly caused total hemolysis, and the reverse was the case with extracts of benign tumors. All cases of tuberculosis showed reverse hemolysis, that is, normal serum hemolysed the patients' corpuscles. In all cases, serum heated to 55 c. for ten minutes prevented hemolysis. Sudden chilling of the blood, according to the method of Hoover and Stone, caused a marked increase in the hemolytic action. Plasma, obtained by immediately centrifugalizing the serum, caused little or no hemolysis in hemolytic cases. The hemolytic property reaches its maximum about 24 hours after the blood has been drawn. In the cancer group the patients in whom the disease was entirely removed lost their hemolytic property in from twelve to twenty-one days after operation: in those with incomplete removal it continued indefinitely. Crile concludes that hemolysis occurs in a number of diseases. It occurs with great frequency in cancer and tuberculosis, and its action in tuberculosis is the reverse of that in cancer. Clinically it affords evidence that may be used in the diagnosis of these two diseases, but the evidence is not as yet specific.

ROUTINE EXAMINATIONS.

The value of regular, thorough routine examination in all cases is pointed out by E. H. Gehring, Portland, Me. (*Journal A. M. A.*, December 12), who quotes case histories showing how mistakes in diagnosis are caused by neglect of systematic routine methods. He suggests, therefore, a fixed scheme of physical examination which he thinks ought to be followed in every first examination, at least, so that the prominence of any one or more symptoms may not lead the physician astray and tend to a snap diagnosis of the wrong disease. "A minimum examination," he says, "should include attention to the weight, pulse in both radials at the same time, temperature, hemoglobin, blood: the urine for quantity, albumin, sugar, bile, specific gravity, reaction and sometimes sediment; the pupils—I would almost add fundus

—throat, gums, ears, reflexes: glands: the liver, spleen and kidneys; for palpation: the heart, lungs and arteries. The tongue's appearance is of so little diagnostic importance that its routine inspection may be omitted. Dyspepsia and a clean tongue indicate hyperchlorohydria, but the so-called typhoid and scarlet fever tongues are not significant." The hemoglobin test only can eliminate anemia and if the scale shows less than 75 per cent., a blood examination for this condition should be made. Gehring does not place a high value on the presence of casts in the urine, nor on the urea, indican, phosphate, chlorid or uric acid tests. If he could know but two things about a urine, he would ask for the twenty-four hours amount and whether the greater part was passed during the day or night. The other points mentioned in the minimum examination can be easily ascertained. "Never look for anything else, unless it be diacetic acid and acetone, and then only—save in case of cyclic vomiting in children—if sugar be present." Personally, he does not examine sediments unless albumin is present. The minimum routine examination he advises, will take thirty or forty minutes (apparently not including detailed blood examination, etc). If intelligently carried out, he believes it will give more valuable information regarding our patients than we usually obtain at first examinations.

LACTIC ACID AND INTESTINAL PUTREFACTION.

Metchnikoff's theory of the production of premature senility by the action of putrefactive bacteria in the intestine and of its prevention by the ingestion of lactic acid producing bacteria, is discussed by P. G. Heinemann, Chicago (*Journal A. M. A.*, January 30), who reviews the experimental data on the subject and gives the results of the examination of a number of preparations manufactured and marketed for the home production of sour milk beverage and foods. These include "lactobacillin," "fermenlactyl," "kefilac," "yoghurt," "lactone," together with some improptu preparation, naturally soured milk and sterilized milk treated with a pure culture *Streptococcus lacticus*. The prevalence of this organism in the product of all the preparations was a marked feature. In his summary, he remarks, that the question of the usefulness of lactic acid or lactic ferments as curative agents for intestinal putrefaction is still open, and while much evidence has been accumulated, further exact scientific study of the subject is desirable. The evidence in

favor of *B. bulgaricus* as such an agent is, he considers, not convincing, the association of *S. lacticus* with its leaves doubt as to which is the active agent. The Bulgarian bacillus causes a disagreeable taste in milk by decomposing some of the fat, and the streptococcus corrects this defect. The reported finding of the Bulgarian bacillus in the feces is inconclusive in so far as no statement is given as to the relative proportion of other bacteria found. It has not yet been shown that lactic acid is actually produced by the presence of lactic acid bacteria in the intestines. They are constantly present in the digestive tract, and we have no convincing evidence that their introduction is of benefit. So far, there is no positive evidence that sour milk prepared with commercial culture is therapeutically better than natural sour milk. It is advisable, however, to boil or pasteurize milk if good certified milk is not to be had, and then an artificial starter is necessary. A little of the previously prepared milk or any other starter will do. In spite of Metchnikoff's statement that the presence of yeast is detrimental, the commercial preparations examined, lactone only excepted, contain yeasts in large numbers. Undoubtedly some alcohol is produced by these, and probably some esters which give aroma to the sour milk. Yoghurt of the Bulgarians, kefir, koumiss, and the other fermented milk beverages contain alcohol-forming yeasts, though the amount produced is very small. Lastly, Heinemann speaks of the desirability of pleasant taste in these products, and says that the flavor produced by the action of *S. lacticus*, perhaps with addition of an aroma-producing yeast is, without doubt, the most preferable.

BLOOD STAINING METHODS.

The chemistry of the methyl alcohol stains for blood is discussed by A. R. Peebles, M. D., and W. P. Harlow, A.B., M. D., Boulder, Colo. (*Journal A. M. A.*, March 6), in an article the conclusions of which are substantially as follows: The changes seen in old metholene blue and eosin staining mixtures are due to a change in the reaction of the methyle alcohol. A too acid staining fluid will stain too red. The neutrophilic granules of the polymorphonuclear leucocytes and the nuclei do not stain well. A too alkaline staining fluid will stain blue; the nuclear elements stain well and sometimes also the neutrophilic granules, but the red cells do not color properly. All staining fluids made up with methyl alcohol should be kept in clean dark

bottles and kept tightly corked. A good cork is better than a glass stopper, and a bottle that has been coated with asphaltum paint is best. If it has been thoroughly steamed and dried out before using much of the difficulty can be avoided. By titrating with potassium hydrate or glacial acetic acid in methyl alcohol the stain can be brought up to the desired standard or reaction at any time, for any blood. No water should be used in the procedure as it insures the instability of the stain. This procedure works equally well with Wright's, Hastings' or Harlow's stains, but in working the latter, change the reaction of the methylene blue only. Use the neutrophilic granules as the criterion in judging the stained smear. If these do not stain well something is wrong with the staining solution or the technic.

BOOKS RECEIVED.

PROLAPSE OF THE KIDNEY—So-called movable or floating kidney cured only by operation, and the necessity therefor, by Augustin H. Goelet, M. D.

DEPARTMENT OF COMMERCE AND LABOR BUREAU OF THE CENSUS—Mortality Statistics 1907, eighth annual report, Washington Government Printing Office 1909.

THE PHYSIOLOGICAL STANDARDIZATION OF DIGITALIS—By Chas. Wallis Edmunds and Worth Hale, 1909, hygienic laboratory bulletin number 48.

NEW YORK SKIN AND CANCER HOSPITAL.

The Governors of the New York Skin and Cancer Hospital announce that Dr. William Seaman Bainbridge will give the fifth annual lecture on malignant disease, with the presentation of patients in the out-patient hall of the hospital on Wednesday afternoon, May 12th, 1909, at 4:15 o'clock. The lecture will be free to the medical profession. William C. Witter, chairman of executive committee.

The right ureter is attacked more frequently than the left in reno-ureteral tuberculosis.—BYRON ROBINSON.

Tuberculosis of the ureter may be mistaken for lithiasis ureteritis.—BYRON ROBINSON.

UTERO-VAGINAL CATARRH.

BY LOUIS P. REIMANN, M. D.,

PHILADELPHIA, PA.

During the past two years I have experimented with Glyco-Thymoline in the treatment of some of the catarrhal conditions which affect the female genitalia. The splendid results which I obtained on the naso-pharyngeal mucous surfaces led me to try it on other mucous surfaces where the conditions were substantially the same. Actual clinical experience has proven to my satisfaction that in Glyco-Thymoline the practitioner has at his disposal a remedial agent which in my opinion is unquestionably superior to the topical applications which I formerly employed. Without fear of contradiction I can say it is by far the best deodorant ever put up in a purulent vagina.

Under its influence the character of the discharge is rapidly altered and that comfort, relief and freedom from malodor which is of so much importance to the female patient, is secured. Glyco-Thymoline, by reason of its peculiar composition, produces the rapid depletion so desirable, cleanses the surfaces and maintains an aseptic condition of the parts. As an irrigation for the uterus and vagina, solutions of 10 per cent. to 25 per cent. are most desirable. When the uterus is highly congested an intra-uterine irrigation of pure Glyco-Thymoline will produce wonderfully good results. When I use tampons pure Glyco-Thymoline produces the best results.

CASE I.—Miss R., profuse leucorrhea (idiopathic). She was very miserable and “run down,” very nervous, severe pain in back; cervix congested; discharge was acrid and excoriating. Treatment: Ordered hot douches (110°) twice daily medicated with Glyco-Thymoline two ounces to quart and put the patient on constitutional remedies. This treatment was persisted in for two months when she was discharged cured.

CASE II.—Ulceration of Cervix. This patient had been treated with Boro-Glyceride, Iodine, Ichthyol, etc., but without much benefit. Resolved to try Glyco-Thymoline which I accordingly did. Tamponed with lamb’s wool saturated with pure Glyco-Thymoline which was allowed to remain for twenty-four hours. On removal a hot douche of 10 per cent. solution of Glyco-Thymoline was given and tampon again introduced. This treatment was given for three weeks when the patient was discharged cured.

When the physician finds it necessary, in disorders of digestion, to promote secretory activity by different remedies, this object can most certainly and completely be achieved by endeavoring to restore the appetite.

—Parlow, *The Work of the Digestive Glands*.

Colden's Liquid Beef Tonic

Activates the Gustatory Organs—Arouses Appetite—

Stimulates the Gastric Glands—Promotes Digestive Secretions

Indicated in impaired appetite, feebleness of old age, gastro-intestinal atony, convalescence, and all disorders of digestion and of nutrition in which the secretory activity of the digestive glands is subnormal. In cases complicated with anæmia, Colden's Liquid Beef Tonic with Iron is indicated. Sold by druggists.

Sample with literature mailed *gratis* to any physician on request

THE CHARLES N. CRITTENTON CO., 115 FULTON ST., NEW YORK

WHEN MOMENTS ARE GOLDEN.

There are times in the experience of every practitioner when moments are precious, emergencies when there is not an instant to lose. A patient, let us say, is writhing in pain. To alleviate his suffering, the physician must act promptly and with precision. Dependence, in such a crisis, is usually upon a single little hypodermatic tablet. And that tablet—will it justify the faith? Is it *medicinally active*? Is it of *full strength*? Is it *soluble*? These become living questions.

Too much stress cannot be laid upon the importance of solubility. And let it be remembered that flying to pieces in water is not the requirement. Many tablets do that—fine, undissolved particles settling to the bottom. This is mere disintegration, not solution; and such a tablet cannot be depended upon to yield the results that the practitioner desires and expects.

Obviously, the physician should exercise care in choosing his hypodermatic tablets. Let his source of supplies be a house with a reputation for making tablets that are stable, active and of uniform strength; tablets that *dissolve promptly and completely*.

Let him search out a brand of hypodermatic tablets that meet all of the requirements above set forth, and let him *specify that brand*.

The largest manufacturers of hypodermatic tablets in the world are Parke, Davis & Co. The hypodermatic tablets of this house are true to label. They are soluble. The materials entering into them are rigidly tested for purity and activity. Parke, Davis & Co.'s hypodermatic tablets are thoroughly trustworthy. Physicians will make no mistake when they specify them on their orders.

SCIATICA.

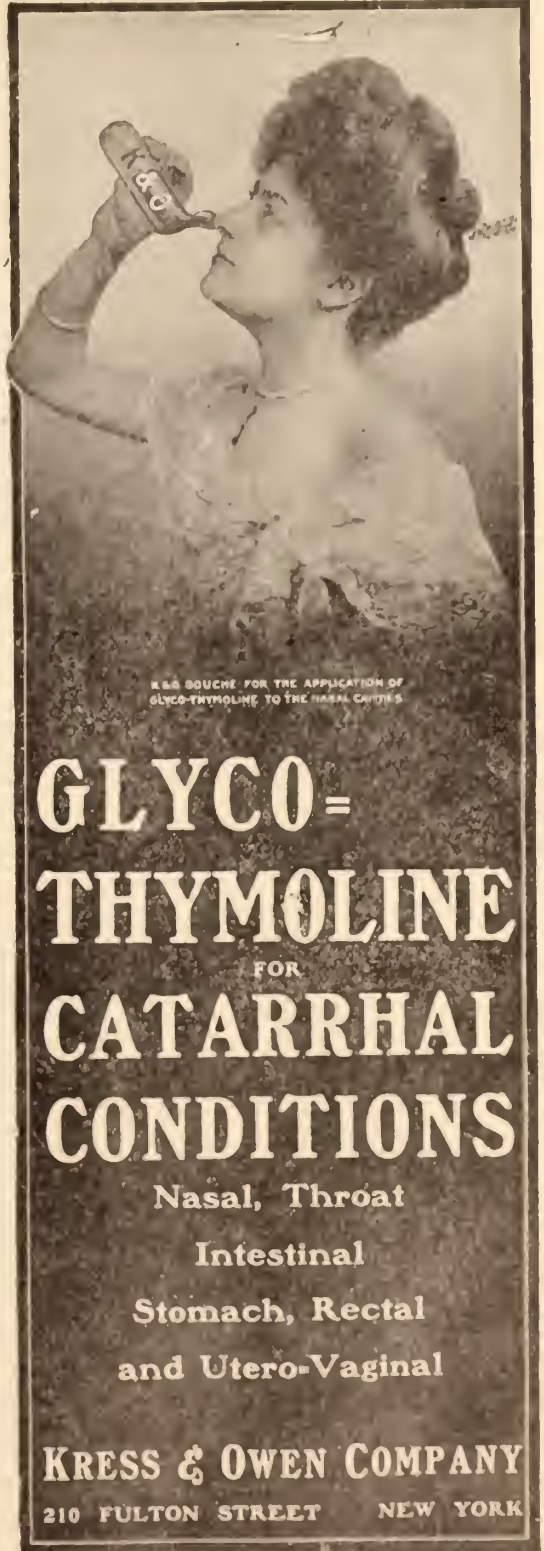
"One of the most common causes of sciatica is rheumatism; so often, indeed, is this the causative influence that some writers include it among the varieties of rheumatism" says Dr. U. C. Underwood, of Louisville, Ky. "The treatment of the affection" he states, "includes remedies to counteract the constitutional factor at work in the production of the disease and measures looking to the relief of the pain. As anodynes, opium is to be studiously avoided in all cases. Antikamnia is a reliable anodyne, which does not produce cardiac depression and will give relief without injurious after-effects. In sciatica it is best given in tablet form, with salol. One antikamnia and salol tablet every two to four hours will act both as a curative and anodyne.

Mr. S. P., age 39, applied for treatment for a most distressing case of sciatica. This gentleman was so racked with severe pain that he could not attend to business, and had to give up all work and was now confined to bed. He drank largely of buttermilk and took antikamnia and salol tablets. These tablets kept him free from pain, and after ten days' regular employment of the treatment he was able to go about his business.

Jennie G., age 19, had severe sciatica, which extended all along the course of the sciatic nerve. She suffered a great deal and could not attend school and had been almost an invalid. She was put on antikamnia and salol tablets—one every two hours for the first three days and one every four hours thereafter. She began also to take a cod liver oil emulsion about the tenth day. She recovered entirely within a period of four weeks. Now, after a lapse of four months, she has had no recurrence of the disease."

LABORATORY AND BED-
SIDE DIAGNOSIS.

W. W. Grant, Denver, (*Jour. A. M. A.*, March 6), thinks that the criticism of a British observer, Dr. Roleston, that there is too much dependence on laboratory diagnosis in this country and too little on bedside observation and experience, is a just one to a certain extent. There is too much reliance, he says, even when not necessarily exclusive, on instruments of scientific precision and laboratory diagnosis, and too little on the training and discipline of one's own faculties in one's accustomed work. The result is a few expert diagnosticians in certain departments and a general decadence in diagnostic skill and acumen. With our better facilities for teaching and improved advantages generally we ought to have more instead of fewer diagnosticians. The surgeon has magnified aseptic and operative technic, leaving the rest largely to the laboratory, and Grant cites several instances in which exploratory operations and laboratory methods were called in to the patient's disadvantage. In some diseases when a fine differentiation is made, the knowledge of the internist is as essential as the skill of the surgeon or the laboratory expert and the results obtained by instruments of scientific precision are not always accurate and reliable, so much depends on the "man behind the gun." Grant disclaims any intention to depreciate laboratory methods, but he wishes to have clinical expertness better appreciated.



INSOMNIA CURED BY DANIEL'S PASSIFLORA
INCARNATA.

BY DR. A. E. NEUMEISTER,

Prof. of Diseases of Women, Kansas City Homeopathic Medical College.

I have cured many cases of insomnia with Jno. B. Daniel's Concentrated Tincture Passiflora Incarnata where all other remedies had failed. I prescribe it especially in gynecological cases in which we have a reflex disturbance and insomnia is the result of great suffering. I have prescribed it with great success in delirium tremens, spinal irritation of long standing, tobacco habit and many diseases of the nerves where a nervine is required. The dose of this remedy depends upon the case; for general insomnia, which may be due to reflex disturbance five to ten drop doses every hour at night. For delirium tremens, thirty drops every half hour with plenty of water will have the desired result in course of one or two hours. I have such good results with this remedy that I prescribe and dispense from one to two pints a month. I prescribe more of this preparation than of any other drug I use in my practice. The purity of the drug is of vital importance.

POST-GRIPPAL COMPLICATIONS.

If there is one particular feature which characterizes the genuine influenzal attack, it is the decided and sometimes intense prostration that remains after the subsidence of the acute symptoms of the disease. This general vital "set back" is oftentimes entirely out of proportion to the severity of the original grippal attack, and the most robust patients are sometimes the most severely prostrated. In addition to the general devitalization, La Grippe is extremely likely to be accompanied with or followed by such troublesome complications as otitis, neuritis, sinus inflammation, gastro-intestinal derangements, resistant and obstinate bronchial catarrhs and, more dangerous than all, a peculiar, more or less characteristic, asthenic, form of lobular pneumonia. The skill of the physician and the vital resistance of the patient are often taxed to the utmost in a combined effort to induce final recovery. Anemia, to some degree, is almost always brought about by the combined devitalizing power of the disease and its complications, and convalescence is likely to be tardy and tedious. An easily borne, readily assimilable hematinic does much to hasten recovery, and Pepto-Mangan (Gude) is an especially eligible method of introducing the much needed ferric and manganic elements, without producing or increasing digestive difficulty. In no condition does this well-tried hematic remedy evidence its undoubted reconstructive power more certainly than in the treatment of post-grippal convalescence.

THE American Practitioner and News.

"NEC TENUI PENNĀ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else." —RUSKIN.

F. W. SAMUEL, A. M., M. D., SAMUEL BROWN HAYS, M. D.,
— Editors. —

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CHRONIC ULCER OF THE STOMACH AND DUODENUM.*

BY WM. H. WATHEN, A. M., M. D., LL.D.,

*Professor of Abdominal Surgery and Gynecology in University of Louisville
Surgeon to St. Anthony's Hospital; University Hospital
and Louisville City Hospital.*

LOUISVILLE, KY.

FOR the last few years there has been no subject that has been more conspicuously before the medical profession than surgery of the stomach. It is of great interest to the surgeon because he performs these operations and gets beautiful results; it is of great interest to the general practitioner because he sees nearly all these cases that are finally operated on before the surgeon has an opportunity to know what the trouble is.

Some conditions of the stomach that were, some years ago, thought to be always surgical, are not to-day considered in the same light; for instance, acute ulcer of the

* Read before the Louisville Clinical Society, February 16, 1909.

stomach, with vomiting of blood, is not now (except in extreme cases) called a surgical condition. These cases belong to the internist who treats them and can probably cure most of them, or get them into such condition that they will not need any surgical treatment. However, this subject is too broad to be taken up in all phases, and I will only refer to chronic ulcer of the stomach that has passed the stage where the internist can give relief and it comes to the surgeon, either because of the continued indigestion, vomiting, suffering and loss of health, or because of perforation, and in this connection, I will mention two cases of acute perforation. By acute perforations I do not mean that the ulcer was acute, but that the perforation was instantaneous, giving rise to alarming symptoms. I will then call your attention to the treatment of these acute perforations and chronic ulcers as recommended by some of our best abdominal surgeons.

Last May I operated on a man about thirty years of age who suffered sudden perforation of the stomach about twensy-one hours before I saw him. He had suffered for a number of years from what he called "indigestion." I think he vomited blood and frequently vomited his food, and had lost considerable flesh. One day he ate his regular meal at 12:00 o'clock noon, and about 3:00 o'clock P. M. he was seized with agonizing pain in the region of the pyloric end of the stomach. He lived out in the country, and to get to Louisville he rode five miles in a buggy to a railroad, then sixty-five miles to the city, walked from the depot to a carriage, and came to my office. Then he went to the infirmary and walked up the steps, and was operated upon. He was under the influence of an opiate, but still was suffering severely, and the muscles of the right rectus muscle were rigid—almost board-like. Pulse and temperature normal. When incision was made a great quantity of yellowish-green liquid escaped, which could readily be distinguished as coming from the stomach. By exposing the pyloric end of the stomach just a little oral to the pyloric constriction, a perforation about the size of a buck-shot was discovered. The perforation was as round

as though it had been cut with a punch. The tissues around it were hard and indurated. It was closed by suture through the entire wall without any trimming off of the edges. It was impossible to bring over the folds of the peritoneum covering the pyloric end because of this indurated condition, but omental grafts were sutured over the closed perforation, the sutures entering the pyloric structure. He was drained with two split rubber tubes, one placed in the right kidney pouch, the other to the bottom of the pelvis. He made a splendid recovery, having no temperature and no acceleration of the pulse after the operation. He returned home in about three weeks, and came to see me some time ago to tell me that he was in much better health than he had been for a number of years, with no symptoms of any return of his trouble.

The second case was operated on in November. This was a man who had been suffering from indigestion for a year or two and had grown quite thin, though I had not known anything about his indigestion. One morning about three o'clock he was seized with agonizing pain in the region of the pyloric end of the stomach. He called a nearby physician, who gave him an injection of morphia, and repeated it until he had taken more than a grain. When I saw him about six hours after the onset of the attack, he was still suffering and had that board-like hardness of the right rectus muscles, and there was some hardness over the abdomen. I at once made a diagnosis of perforation of the stomach, and sent him to the hospital, where I operated on him at ten o'clock, not more than seven hours after perforation occurred.

The character of the discharge in this case was different from that in the first case; there was no greenish-looking fluid. There was a milk-like discharge, and around the pyloric end of the stomach, where the perforation was found, there was an infected area with fibrous exudation. The rupture in this case was about the same size as in the other case, but it was ragged, and about half an inch farther away from the pyloric constriction. The tissues were fairly soft. The perforation was sutured in the same

way as the first case, and then a sero-serous suture applied, after which a graft of the omentum was sutured over the wound. He recovered, and is stouter now than he has been for years and has no indigestion.

It seems that in these two cases operation not only saved the lives of these men, but has (up to this time) resulted in a complete cure of the ulceration and indigestion. It is too early, however, to give a positive opinion on this point, because symptoms may arise within one or two years, and it will be well not to say that these cases are entirely cured of the ulceration until at least two years have elapsed since the operation. Then, if they are free from all symptoms—pain, indigestion, vomiting, or anything of that kind—we can safely say that they are cured.

Perforation of the stomach is not a frequent occurrence. While we often see ulcers of the stomach but few of these ulcers ever perforate. In probably 40 per cent. of cases of gastric ulceration the perforation occurs in the pyloric end of the stomach, but recently, in operative work, we have found that many cases which have been diagnosticated in the past as pyloric perforations have really been duodenal perforations, and Dr. Mayo now claims that more than 50 per cent. of perforations in the gastro-duodenal region are in the duodenum.

I would call your attention to a report recently made by Dr. Mayo and another by Mr. Moynihan. The latter reports cases up to the first of January, 1906. Dr. Mayo's report includes cases up to within a few weeks of publication of the paper, say January, 1908, two years later. A peculiar coincidence is that each reports the same number of cases—twenty-seven. Of Mr. Moynihan's cases, nine died; of Dr. Mayo's cases, six died. All of these cases were operated on in practically the same way, by suturing the perforation, and by infolding the peritoneal structure over this suture. I do not think either of them mentions attaching a peritoneal graft. In Moynihan's cases he performed gastro-enterostomy at the time of the operation six times, and one died. In several cases within a few months after the operation he was compelled to operate to relieve

urgent symptoms caused by pyloric stenosis. In one case the ulcer had caused hour-glass contraction of the stomach. In Dr. Mayo's twenty-seven cases he performed gastro-enterostomy on five patients, two of whom died. Twenty-two were closed with suture and drainage of the abdominal cavity, with four deaths, making six deaths in his twenty-seven cases.

The question when should we perform gastro-enterostomy in these cases is not settled, and Mayo and Moynihan differ in a degree on this point. Moynihan claims that in every case of perforation of the stomach in the pyloric end, where the patient is able to endure the operation, gastro-enterostomy should be performed, for the reason that, if not performed, these cases may afterwards have trouble because of pyloric constriction. Mayo reports but little trouble following his twenty-two operations in which gastro-enterostomy was not performed. One of these patients required secondary gastro-enterostomy.

Again, we find that where the perforation occurs in the smaller curvature of the stomach, toward the cardiac end, gastro-enterostomy is probably not so essential as when the perforation is in the pyloric end, and for the reason that the only trouble here would be that the cicatricial condition might result in some contractions, probably hour-glass contractions, whereas if the perforation is in the pyloric end of the stomach it may result in stenosis if there is much inflammatory trouble. However, I am of the opinion from experience, from Mayo's report, and from what I have read of the results of the work of other men in operating for perforation of the stomach, that most of the cases at the pylorus would recover permanently without gastro-enterostomy, either at the time of the operation or subsequently; likewise most of those cases where the perforation is in the smaller curvature of the stomach.

Again, these patients are not always in condition to bear up under a gastro-enterostomy, for the reason that we do not always see them early, and when we do see them they are in such condition that we must do the least

possible surgery to save life. However, cases differ, and one case may be operated on twenty-four hours after perforation occurs and show no evidence of peritonitis or infection, while another case may be operated on four or five hours after perforation occurs and have extensive infection, which difference is illustrated in the two cases I reported. In the first case the peritoneum covering the intestines and walls looked just as healthy as any peritoneum I have ever seen. There was some evidence of chronic peritonitis around the pyloric end of the stomach. In the second case the infection was very marked around the opening into the pyloric end, with a discharge of an entirely different character. In the first case no symptoms whatever followed the operation. In the second case, which was drained in the same way—a tube above and a tube below—there were considerable symptoms and discharge of pus for probably six weeks before it entirely closed.

I have selected these two cases to illustrate the difference in the degree of infective products drained into the peritoneal cavity in gastric and duodenal perforation. The extent of the infection depends upon the character of the discharge that flows from the stomach into the abdominal cavity. If the stomach contents is full of germs, then you quickly have infection; but if you find a stomach that has practically emptied itself before the perforation, and only the stomach secretion gets into the peritoneal cavity, you may have no infection for a considerable length of time, because the stomach sterilizes itself if you will keep food out of it, and so will the duodenum.

In the treatment of chronic ulcers that have resisted all medical treatment and cannot be cured except by surgical intervention, there is some difference of opinion. In the pyloric end, if the constriction is considerable, most operators only make a gastro-enterostomy, and these patients get well and may never suffer again. Gastro-enterostomy ought never to be done, as a rule, except where there is obstruction in the pyloric end of the stomach or in the duodenum that prevents stomach drainage; other-

wise, the contents of the stomach will pass out through the pylorus instead of entering the jejunum. This is a question that confronts us. It has been shown conclusively by men like Mayo and Moynihan that the majority of all cancers of the stomach originate in the base of an ulcer. Mayo puts it at 54 per cent. Because of that fact Rodman suggested, several years ago, that where there is considerable chronic ulceration and induration of the pyloric end, to make a resection of that part, including all ulcerated or indurated tissue, and after closing the duodenal and gastric ends, then make a gastro-enterostomy. Mayo has approved of this suggestion in some cases, and followed it, and so has Moynihan.

The next question that arises is how are we to treat cases of extensive chronic ulceration of the stomach. Shall we do a gastro-enterostomy and leave the ulceration and induration, or shall we do a resection of the ulceration and then do a gastro-enterostomy? Mayo reports two cases in which he found a chronic ulcer in the smaller curvature of the stomach that could not be resected out in the proper sense of the word. In these cases he took a sharp knife and cut out the base of the crater, producing practically an ordinary perforation of the stomach, and treated it after the same fashion, with perfect success.

In concluding this talk I wish to say that most cases of ulcer of the stomach are medical, and, if properly treated, do not demand surgical intervention. A great many cases in the past have been treated by the surgeon that had better been left to the internists. Further than that, when we do have occasion to operate on chronic ulcers the operated patient needs careful regulation of his diet and medical attention for a long time afterward. Therefore, we may say that the conditions which lead up to the operating stage are for the internist, and this makes the question of ulcer of the stomach as much, or more, a medical than it is a surgical question.

DISCUSSION.*

DR. E. S. ALLEN: I do not know how to open the discussion, as I did not hear all the paper, and do not know just what points Dr. Wathen took up.

I would like to ask Dr. Wathen if he has ever demonstrated a specific cause of gastric ulcer; whether it is the result of some trauma from the food or whether it is the result of endoarterial changes, which, to a certain extent, produce a local anemia and so lower the vitality of the epithelial cells as to extract from them their vital property of resisting the action of the gastric juices. We know that this type of protoplasm has that property of not being digested, but whenever, from any cause, it is de-vitalized, it becomes subject to digestion by the enzyme.

As to perforation, I think the mortality in these cases would depend a great deal upon how soon after the perforation the patient is operated upon, and the type of perforation, whether an acute ulcer or a chronic one. In chronic ulcer, especially if there is some other membrane or tissue near the perforation, we have inflammatory repair material thrown up to repair the damage, and we really do not get perforation through the stomach wall where it is protected by an adjacent organ, as the liver, spleen, omentum, or whatever structure may be near.

As to finding no evidence of infection even twenty-four hours after the perforation, I think it has been conclusively shown that peritoneal enzyme, acting on a great many bacteria, produces the so-called explosive action, absorbing and dissolving them, and we have absolutely no evidence of other irritation. It has been shown that twenty-four hours after injecting enormous doses of colon bacilli into the peritoneal cavity, as a result of the explosive action of the enzyme, there was no evidence of peritonitis.

As to cancer coming on in the site of the old ulcer, I believe this is a fact, and I believe that the majority of our carcinomas are the result of prolonged, constant, chronic irritation, stimulating excessive karyokinesis, and that when the cells are stimulated constantly they revert back to blastodermic prototype. Where a cell usually divides, say once in twenty-four hours, as a result of stimulation by hypernutrition, it divides twice to eight times in twenty-four hours, and loses that much physiological function, and is that much a younger cell, and as it becomes younger and younger it reverts back to its prototype, and

*Stenographically reported for this journal by H. S. Smith, Louisville, Ky.

we know that the nearer back it gets to its prototype the more malignant it becomes.

I would like to ask Dr. Wathen why it is that the majority of ulcers of the stomach occur on the anterior wall. I cannot understand why more should appear on the upper wall of the stomach where we have better blood supply than on the posterior wall.

As to evidence of perforation, I think we can have millions of certain bacteria poured out into the peritoneal cavity, and have little or no evidence of it, while if another type is poured in there we will have evidence of a virulent infection. So I think the mortality would depend a great deal upon the kind of bacteria that is doing the harm. We know that the colon bacilli are disintegrated rapidly by peritoneal fluid, while the streptococci are affected little or not at all. In the streptococci infection we have signs of inflammation, whereas in the colon bacillus we have no evidence of inflammation and round-celled infiltration, leucocytosis or migration of white blood cells into the parts, but where the bacteriolytic enzymes act on bacteria, the intracellular toxin, I think, we frequently have patients die as a result of the enormous destruction of these bacteria, and when we make microscopical examination we find not a single organism.

DR. J. M. MORRIS : Dr. Wathen's paper is very interesting. I was particularly glad to hear him assign as much of the treatment of gastric ulcer to the physician as he did. I hope the next man who furnishes us with a paper will write one on the medical treatment of this trouble.

As to surgery for perforation of the stomach I shall say nothing, as it is not in my province to do so. As to the medical treatment, I have had only a limited experience. The most interesting case I have ever seen was one which I reported to this Society nearly a year ago, but there are some things about it I should like to mention, as the patient has since died. This case was in the person of a woman, 60 years of age, who had a carcinoma of the stomach. However, we were very much in doubt as to the nature of the condition during the first year and a half of her illness. Several surgeons saw her with me, and we were not sure as to what we were dealing with until an exploratory operation was done after the illness had persisted for about eighteen months, and then we found a condition in the greater curvature of the stomach that looked so much like a

carcinoma that we felt sure of the diagnosis. There was also a perforation. The perforation was protected on the outer side by the adjacent organ, whatever it was; I do not remember. At any rate, the perforation was fully as large as the end of my index finger. The case seemed to be absolutely hopeless. The perforation was closed, the wound closed also, and the woman put to bed with the expectation that she would die within a few weeks at the most; but, to our astonishment, she lived sixteen months after that, and we became skeptical as to our diagnosis, thinking we had made a mistake. After her death, to satisfy ourselves as to the diagnosis, a post-mortem was held, which confirmed the diagnosis of carcinoma of the stomach, but it had made comparatively little progress during the three years of her illness. It had never reached the pyloric end of the stomach during all that time, and she had comparatively few of the symptoms of carcinoma. She had never been subject to vomiting, to my knowledge; she never had much pain, and, all in all, it was a very unique case.

DR. EWING MARSHALL: I cannot see why simply opening the abdominal cavity and closing the perforation in the stomach should result in relief. I do not mean to criticize such work, but I do not see the wisdom of not cutting away the diseased tissue and leaving only the healthy part. I should think that if the degenerated tissue continues to be exposed to the gastric juices there will, sooner or later, be a return to all the former symptoms and a new rupture at that point.

I noticed that Dr. Wathen remarked, in regard to the cases he reported, that so far the outlook is very favorable, but that time enough has not elapsed to warrant a positive opinion that the symptoms will not return. Those of us who can look back twenty or thirty years know how operative work has come into vogue and dominated the profession, and operation after operation has been perfected in technique and the results reported, and then, one, two, three, four or five years afterwards these same men or their associates begin to discover that they have been mistaken as to the results, when they find all along the way wrecks that would probably have been much better off had they not been operated on. I think many fields have been overworked in the surgical line. I think all the points made by Dr. Wathen on this subject are worth considering. Possibly the surgeons have gone too fast with the stomach just as, at a period

farther back, they went too fast with the ovaries and other parts of the body.

DR. A. D. WILLMOTH: I wish to thank the essayist for his timely paper.

It was my privilege (rather by accident) to be present when Dr. Wathen operated on both of the cases he mentioned. As the essayist has so well said, this condition has, perhaps, two sides—the medical side and the surgical side. Possibly most of these cases can be carried along under medical treatment with proper diet and hygiene, and gotten into very good condition and no harm has been done even if the patient has to come to operation later, because he is in just as good shape for operation as he would have been earlier. For this reason the majority are medical cases. At the same time, however, they should be kept under surveillance by the surgeon, so that in case any acute condition arises it can be promptly dealt with in a surgical way.

The operative side, however, is not entirely devoid of danger. We all know that after gastro-enterostomies we may still have hemorrhage and cancer, or perforations. Then there is another side to it, those patients who, after any major surgery is done on them, develop a condition known as, for want of a better term, neurotic. They are not good subjects to get well after any operation.

In one case Dr. Wathen spoke of he mentioned transplanting the omentum. I think in operative work on the stomach and intestines too few students utilize that very valuable agent, which is right at their fingers' ends, to aid nature in walling off these cases. Too few of us use the omentum to suture over these places where the wall is thin and liable to leak afterwards. We know that is what nature does to block it off. I wish to especially commend the way Dr. Wathen transplanted the omentum in his case to prevent any leakage.

Dr. Marshall asked why the diseased tissue should not be cut away in these cases. I think it is recognized by all surgeons that when we attempt to make a resection of the stomach it becomes a major operation in the extreme. No surgeon cares to resect the stomach if he can avoid it. It is necessary to go in behind it and tie off all the important blood vessels, and the danger of leakage, etc., makes it a very formidable operation. The results have never been satisfactory, and most surgeons steer clear of resection of the stomach if they can. As Dr. Wathen

said, many of these patients will not stand resection of the stomach; it is a question of getting in and out as quickly as possible, and the thing to do is to close the perforation, and trust to nature to take care of the ulcerated condition that is present.

DR. J. W. IRWIN: The subject that Dr. Wathen has presented is one of great interest to the medical profession in general. It is not only a surgical question at times, but it is primarily and in the majority of instances a medical condition. I have seen a great many cases of ulcer of the stomach, and, up to this time, I have never seen a case of carcinoma following the ulcer. However, I have seen carcinoma of the stomach without any history of ulcer. I cannot give you the exact number of cases of gastric ulcer that I have seen, but certainly it is more than two hundred during the past thirty-five years, and in that number I have not seen a single case of carcinoma of the stomach that could be traced to a previous ulcer. I have not cured all these cases. I have four or five cases of chronic ulcer that have been going on for four or five years. There is no evidence, so far as I can see, of perforation, but these individuals suffer more or less from melancholic tendencies, and have imaginary ills. I think persons afflicted with stomach trouble become very sensitive as to their general condition, and trivial ills make them feel much worse than they would if the stomach was not involved.

I have found that under proper diet and hygienic treatment nearly all cases of gastric ulcer will recover without operation. I have cases under observation, the latest of which has been of five years' duration. In these cases I think the surgeon might do some operating to advantage if I could get the consent of the patients, but I have not been able to get their consent to have their stomachs opened. One is a man and the other four are women.

Just in this connection I would like to mention a very peculiar experience to show the effect of stomach afflictions upon the mind. The patient was a prominent citizen of a neighboring town who had never been under my care. His wife came to see me, and entreated me to do something to scare him to prevent him drinking. She sent him to see me, and first of all I had to sober him up. I examined him and told him to call at my office a day or two later as I had something to say to him. He called and I told him very little, simply telling him that he must quit

drinking or he would not live very long. He became very much excited and wanted to know what was the matter. After considerable persuasion I consented to enlighten him, and finally told him that he had two holes in his stomach. He turned pale and fainted in my office. His brother-in-law was sent for, and when he arrived I took him aside and told him that the condition was imaginary, not real, and that the patient's wife had asked me to scare him to keep him from drinking. He considered it a magnificent joke, but when the news was given to the patient's wife that her husband "had two holes in his stomach" she developed a fit of hysteria, although she had asked me to scare him. It went on this way for nearly a year, and not one drop did the man drink. One day I met the wife, and she told me that her husband was a great deal better; that he had followed my directions to the letter, and asked me about his condition. I said: "Did you not ask me to scare your husband to make him quit drinking? Everyone has a hole into and out of the stomach." "Was that it?" she asked. "Well, that is a great joke," and she lost no time in telling the story. It finally came to her husband's ears, and, of course, the charm was broken. He resumed drinking, and is unable to stop it.

I had under my care at the infirmary for twenty months two girls, one twenty-two and the other twenty. One had a tubercular eruption of the skin and the other had a gastric ulcer. I kept the latter on milk alone for eighteen months, and once during that time she disobeyed my orders and ate a piece of bread, which she vomited a few minutes afterwards, and about a quarter of a pint of blood came with it. She did not eat any more bread. At the end of eighteen months I increased her diet, and in twenty months I allowed her to return to Cuba. In the past seven years she has not had a symptom, and can eat anything she wants.

DR. WATHEN (*closing*): I do not know that I can satisfactorily answer the question Dr. Allen has asked, because it has not been proven by surgical operations, stomach analyses or research work of any kind, just what causes these ulcers. We know, however, that every ulcer at the beginning must be in a stomach that has an excess of hydrochloric acid. We know that hydrochloric acid and pepsin would destroy the walls of the stomach if it were not protected by some means. Therefore, it is now believed that in the stomach, the duodenum and probably other parts of the intestinal tract, there is a chemical substance

or some other product that neutralizes the action of the gastric juices and pancreatic secretions upon the mucous membrane. The mucous secretion may also aid in preventing self-destruction of the gastro-intestinal walls. Various other theories have been advanced, but none are satisfactory.

As to why these ulcers should occur on the anterior portion, that is a question I cannot answer, but I can very readily tell why they occur more frequently in the pyloric end rather than in the body of the stomach. It is, because the pyloric end is constantly subjected to traumatism by peristaltic action, forcing the food up into the pyloric antrum, and then, by a reversed peristalsis, throwing it back into the stomach.

Again, when the pyloric contraction has relaxed and allowed the chyme to pass into the duodenum, which, to complete digestion, must be alkaline, it acts directly upon the duodenal mucous membrane, as it did in the pyloric or in the body of the stomach, and probably the duodenum does not have the resistance equal to the pylorus and stomach, as the walls are thinner, but other conditions may exist to protect the duodenum. As has been proven by Mayo, probably over 50 per cent. of gastro-duodenal ulcers are found in the duodenum.

As to the question of operation, we have had too much stomach surgery, and, again, we have had too little. The surgeons who are voracious for work are not guided by logical principles, and have operated on the stomach where there was no organic lesion whatever that could be demonstrated. Time after time has this been done. These patients are not benefited, but are really crippled for life. Where there is any organic lesion in the stomach, such as stenosis or ulceration, that is manifest and that has resisted all other treatment, such patients will be benefited by surgery and gastro-enterostomy is the operation proposed for these cases. We should first exhaust all the means at our command to cure the case by medical and hygienic treatment, and then we should make exploration. However, our most experienced men have found that sometimes, even after making stomach analyses, and taking all precautions possible to be sure of the diagnosis, they have operated and found no organic lesion. The trouble is that in such cases some men go on and perform gastro-enterostomy. Of course, an honest and educated surgeon would not do such a thing, but would simply sew up the abdomen and acknowledge his mistake.

Speaking of cancer arising at the site of an ulcer, it is a pe-

culiar fact that cancer has seldom been found following these ulcers in the duodenum, but is usually in the pyloric end.

In answer to Dr. Marshall's question with reference to closing the perforation without dissecting out the diseased tissue, I will say that experience has taught us that the results are just as good, primarily and secondarily, by suturing without trimming the edges of the perforation, and that the ulcers will heal and remain healed just as well. We suture through the entire wall of the stomach, including the mucous, muscular and serous layers.

A REVIEW OF SEVERAL THOUSAND PERSONAL SURGICAL ANESTHETICS AND TECHNIQUE.

BY H. C. WOODARD, M. D.,
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THREE of the most important general anesthetics we know of to-day are ether, nitrous oxid and chloroform. Since these most valuable anesthetics have been known there have been some great strides in anesthesia, but there is much to be known as yet. Nitrous oxid was discovered by Priestley, in 1776, but its general employment began by Wells, in 1844. W. Morton, in 1846, began the systematic use of ether. About one year later J. Y. Simpson discovered chloroform, and demonstrated successfully its anesthetic properties. Chloroform is a most valuable anesthetic, but statistics have shown it should never be indicated except where ether is contraindicated, which is seldom the case. Nearly all fatalities due to an anesthetic in competent hands are from chloroform, either mixed with some anesthetic or given unadulterated. Reliable statistics give an average of one death to about every 16,000 administrations of ether. The author of this paper has administered ether over 3,400 times for surgical operations without a death. Ether I think to be five times as safe as chloroform; therefore, most of my remarks here will be about the former.

Ether is more popular to-day than ever before because it is the safest anesthetic we know of, which gives the most complete muscular relaxation which is so important,

especially in abdominal work. Its danger signals come on slow, and generally gives the capable and careful anesthetist plenty of time to act and correct what is necessary. Just the reverse is known of chloroform. Here the heart is attacked first, and often without warning symptoms, and kills very quickly before aid can be rendered. I was asked many times, while in the capacity of interne in New York City, why chloroform was given preference in the South. I generally tried to explain with that popular excuse, but a very weak and unscientific one, "habit." However, there is a great improvement in this city. The surgeons are fast breaking away from that dangerous "habit," and ether is employed as the routine anesthetic of to-day. Because chloroform is the most convenient and easiest to administer is, perhaps, the cause of its being used so many times. There are some contraindications to the use of ether as an anesthetic. In cases of renal disorders it is generally thought to be less safe than chloroform, owing to the danger of suppression of urine and shock. Ether does not produce renal disorders of any importance in a healthy kidney; the disorders it produces are acute inflammatory conditions, which generally pass off soon.

Chloroform is liable, and often causes, a degenerative condition of the kidney, which many times is not recognized until some time after the administration, and the real cause is lost sight of. Some of the special cases that increase risk are acute inflammatory conditions of the heart or of its lining endocardium; are usually more serious than chronic affections of a similar nature, especially if, in these latter, compensation is fully developed. Chronic inflammation of the walls of the arteries certainly predispose to the rupture of a vessel when, for any reason, the arterial pressure is raised.

Acute inflammations in the lungs, especially the pneumonias demand, because of the consequent obstruction of the right ventricle of the heart, which that organ, under the influence of an anesthetic, may not be capable of supplying. Such lesions also necessarily diminish the oxidizing

surface of the lungs, and thereby render them less efficient as organs of respiration. I think ether is contraindicated in acute Bright's disease or nephritis. In this condition, if possible, nitrous oxid should be given. Just a word or two here about nitrous oxid gas. It is a very safe anesthetic, and is used often for teeth extractions, short minor operations of various kinds, and in major operations, where ether and chloroform are contraindicated on account of diabetes, kidney affections, etc. The death rate is about one in one hundred thousand. It is eliminated very rapidly by the lungs, and does not damage inflamed or crippled kidneys. For that reason, mostly, it is indicated in acute Bright's disease or nephritis. I gave successfully to a diabetic, 68 years old, nitrous oxid seventy minutes for a suprapubic prostatectomy, and many times forty and fifty minute operations when complicated with renal disorders. I gave nitrous oxid often while an interne at Hudson Street Hospital, in New York City, for reducing fractures and dislocations, and in most all cases it acts nicely, giving sufficient relaxation. In some of these cases it was necessary to switch over to ether on account of not getting proper relaxation; however, this is very easily done.

There has been much written lately about the double gas method, or oxygen mixed with nitrous oxid. I have used oxygen with gas many years, and have seen no need for it in short minor operations. Using atmospheric air with the gas when needed in these cases is all that is necessary. It requires repeated practice and much skill to produce a prolonged working gas anesthesia. Nitrous oxid can be administered for a much longer time than was formerly thought. Mixing the gas with air or oxygen, as the case demands, is the secret of long, successful administration. About five inhalations of gas to one of air is generally the right proportion. For major operations, where complete muscular relaxation at times is demanded, and the gas has to be pushed for some minutes, we have to have pure oxygen mixed in at times to maintain the proper amount of anesthesia without a too marked cyano-

sis. In such cases it has been proven to me that oxygen is necessary, and that atmospheric air is not sufficient.

There are reasons why the double gas method is not used more. First, extra expense to the patient, or, I should say, expense to the anesthetist, for he generally doesn't get but \$10.00 for this work, which almost always costs him \$6.00, and often more, to give this method of gas. My fee for this method now is \$10.00 for the administration, plus the cost of gas used. This, I think, is the correct way to charge, except in some few cases where I use the sliding scale. The bulky paraphernalia in general use for this double gas makes it very hard to transport where needed. I have constructed a portable apparatus which gives good service and is practical to me. It may not be as practical to others on account of the weight. I can take all that is necessary in a leather hand bag to anesthetize over eighty minutes. This consists of two full cylinders of one hundred gallons each of nitrous oxid and one forty-gallon cylinder of oxygen. I have had my Bennett's Inhaler constructed so I can use the double gas or oxygen with ether if necessary.

The patient does better before, during and after the operation, if given twenty minutes before a major operation, morphin, gr. 1-6- $\frac{1}{4}$; atropin, gr. 1-150-1-100. Some give morphin and hyoscine or scopolamine. This combination, with the anesthetic, depresses respiration very much, and is often the cause of shallow breathing and cyanosis. I also use a mouth prop I had made of my own pattern in all of my gas cases to keep a clear breathing space, which is so important. I will speak of this prop and its advantages later on in this paper. If the patient is kept in an even surgical anesthesia, which is accomplished by carefully watching symptoms, knowing your patient early and regulating the air supply and giving less nitrous oxid, there is generally not enough change in the patient to warrant all the useless fuss you so often see on the part of the anesthetist, and in many of these major operations you will find little use for the oxygen tank. I have seen chronic bronchitis improved by ether

A patient with an acute cold should not be given ether, if it be possible to wait a few days until the acute stage subsides; then they can generally take ether as well as any other anesthetic. If the case is one of emergency and cannot be delayed then give chloroform, or, perhaps, nitrous oxid, if the operation is one where it can be used. I have given ether in pulmonary tubercular trouble often, and all took the anesthetic well excepting a few who did not seem to have enough active lung to oxidize sufficiently under ether; in those cases I switched to chloroform, which acted very nicely.

In general, the existence of any lesion demands the observance of the greatest care in administering an anesthetic, no matter how safe it has proven to be in the hands of experts. Sometimes, with the *best* of care, sudden deaths occur. My experience is, patients with lung and pleuritic susceptibility, and in pulmonary tuberculosis, the lighter the anesthetic is given means better chances for the patient. The use of the nitrous oxid and oxygen method does not work successfully with some of these patients; it frequently causes dyspnea and cyanosis. These patients do better with a minimum amount of anesthesia and large quantities of air; therefore, chloroform has proven to me to be the best because the air supply can be regulated better. When chloroform is ever used at *any* time, the dangers are lessened if nitrous oxid and ether are employed to produce anesthesia, and then switch to chloroform when the patient is breathing regularly, which lessens the risk of getting a large dose suddenly inspired during the stage of excitement, which is the most dangerous time. It has been shown that most deaths from anesthetics occur during the stage of excitement; therefore, we should try to lessen this exciting stage as much as possible. I have made it a routine practice when I possibly can to give, twenty minutes before the anesthetic, subcutaneously, morphin, gr. 1-6-11, and atropin, gr. 1-150-1-100, which relieves the patient of that excitement and shock so often seen prior to the anesthetic.

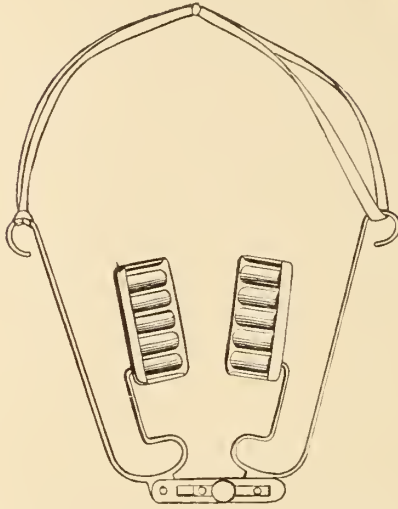
The patient, with such a hypodermic given, generally

is wheeled into the little room with an even respiration and slow pulse, mouth dry, and a better subject for an anesthetic than they would be without the preliminary hypodermic. The patient in this quiet, medicated mood is particularly susceptible to suggestive influence, which is important; the tracheal mucous is practically eliminated, the heart and respiration are sustained, the anesthetic is more profound with a minimum amount. The post-operative nausea and pain are greatly modified and often entirely prevented. Ether is rapidly eliminated, chiefly by the lungs, and the patient often sleeps two and three hours after the administration has ceased, thus giving the anesthetic more time to be eliminated. I cannot see why some surgeons object to morphin and atropin being used as a preliminary without there is a real cause, which is very seldom the case. Children, as a rule, take ether well; they yield very quickly and require very little, no morphin being necessary or given.

The administration of an anesthetic to the surgical degree should always be preceded by a most rigid examination of the different organs of the body, and especially the kidneys. This examination, to a great extent, has to be trusted to the surgeon in charge. Naturally, the anesthesiologist feels, as a rule, if the surgeon thinks the patient is physically able for a major operation, they certainly should be fit for an anesthetic. I have often found heart lesions which, when there, I am glad to detect, as the heart, when crippled, must be watched very carefully, but to know by that short examination just before the operation whether compensation has taken place is impossible, so that part is left to the judgment of the surgeon. I have heard surgeons say that if the patient did die from the anesthetic the blame rested on their shoulders, which is very true unless they have a skilled anesthesiologist. The mortality of anesthesia is very high in incompetent hands. The patient should be given the benefit of a competent anesthesiologist always. This some surgeons do not seem to think necessary, or do not do often, when the services of one could easily be gotten. No anesthetic should be given except by one the

surgeon knows to be skilled in this line of work. It is very essential that the patient have an empty stomach, and should be directed not to eat any solid food for six hours before the administration. If the operation is one of emergency, and it is necessary, shortly after a meal the stomach should be washed out before proceeding. It is advisable to empty the bowels by suitable cathartics and enema on the day before the anesthetic. Strong cathartics often do harm by weakening. I have seen enemas given just before the operation, which generally weakens the patient very much. The operating room should be 65° to 70° F. Many cases of collapse and also bronchitis afterwards, which ether is blamed for, are due to the patient being taken back in a cold room and put in a cold bed.

The anesthetist should be equipped for dealing with emergencies or accidents which may come up during the administration—mouth gag, tongue forceps, hypodermic filled with necessary respiratory and cardiac stimulants. Generally, strychnia and atropin I consider the best. The nurse should have the apparatus in good working order for performing infusion when there may be profuse hemorrhage. One of the hardest tasks of the anesthetist is to keep the air passages clear and open sufficiently to permit free breathing. The different mouth gags we have now are too bulky, hard to adjust and keep in place, and out of the way of the cone when administering an anesthetic. If the tongue is pulled forward to open the air passages, which is often the case without a gag, it cannot be advanced beyond the teeth without endangering it to injuries by the patient biting it, or more often by the anesthetist pushing on the angle of the jaw, which sometimes sets the teeth firmly together, which damages the tongue.



I use the above mouth prop of my own design, which is simple in construction, safe to use, and has rendered me valuable assistance. This mouth prop consists of two vulcanized, wedge-shaped pieces; each is one inch long, half an inch wide, with sideboards on outer part. It is one-quarter inch at base of wedge; the upper and lower sides are grooved to prevent slipping. On the outer side of these vulcanized pieces is attached small, but strong, German silver wires, which, when the props are in place between the molar teeth on each side, curve out of the mouth to the front of the lower lip, where a small sliding rod with a set screw attaches the two sides together, and is so arranged that the prop can be adjusted to any shape or size mouth very quickly. The wires then curve back without pressure, and fits close to cheeks, where an elastic rubber fastens them snugly around back of head. This can be adjusted very quickly, and is entirely out of way of cone; there is no danger of losing the prop, and patients do not mind its use. This prop does away with that stage where the teeth are often clinched, seen in the semi-asphyxial states; in persons with short, thick necks, where the anatomical conditions cause dyspnea and cyanosis. Too forcible or too prolonged pressure on the angle of the jaw is avoided, as it produces sub-acute inflammation, which

persists for a number of days afterwards. The freedom of the passage of air into the mouth is sometimes interfered with by a valve-like action of the lips, mostly seen in old people. Propping the mouth generally eliminates all this and the jaw can be held in place very easily.

In the anesthetic room the patient expects an examination by the anesthetist; therefore, say a few pleasant words about the heart. Note the rapidity of the breathing, the condition of the pupils, whether contracted or dilated. These things are noted for comparison during the anesthetic. Inspect the mouth, and see that false teeth or foreign bodies are removed. Some highly sensitive women with removable plate teeth deny having them. Patients often do not want to give up a pillow which is propping the head too high; in most of these cases the teeth and pillow can be left alone until they can be removed without the patient's knowledge. See that there is no restriction, especially of the neck, shoulders and chest. It is well to explain to patients the sensation to expect, such as light before the eyes, fullness of the head, noises in the ears, and a gradual sleepy feeling, which sensations they experience more or less. Too much explanation along this line excites and scares the patient. The idea of this preliminary preparation is to put your patient's mind and body at ease, and make them as comfortable as possible, which assists the anesthetic very much.

Scare, uneasiness and an uncomfortable position retards anesthesia. There should be an inflated pillow ready, which is made for the purpose of supporting the normal curvature of the spine, which, if not supported when under the anesthetic, the spine relaxes, and strains the ligaments and muscles by slipping down in an abnormal position. Neglect of this support is the cause of so much post-operative backache in the region of the kidneys, which is very often thought to be due to renal irritation from the ether.

The method of administering ether is, I think, of importance, and one which I have given a great deal of time and study to. Some authorities say that for this pur-

pose any ether cone may be used. My experience does not bear out this statement. I have tried most all methods and cones which seemed reasonable and condemned none until tried. The open method, administered mostly with the improved Esmarch or Allis Inhaler, or made cones of about the same pattern, seems to be a very popular one, but has some very objectionable features. Large amounts of ether have to be used on account of the waste. The patient inhales large quantities, which increases after effects. The ether and air are not properly diffused on account of the ether being applied so close to the face. In making renewals of ether in this method the entire amount may not readily become volatilized on account of the close proximity, which may get into the eye, run down either into the stomach or larynx. Fluid, either in the stomach or larynx, may become volatilized, and cause grave symptoms. During long administrations the room may become saturated with the vapor. It is a very expensive method. The patient generally suffers before becoming unconscious from the great amount of refrigeration it produces.

I have heard it said that with the open method the patients do not breathe very much ether on account of the waste. This statement is doubtful, as it seems to me impossible to know how much ether is breathed or lost when large quantities are used. With the semi-open method which I employ very little ether is used at all; therefore, overdosing is minimized. Some anesthetists now use the nitrous oxid and ether method to get the patient under, then switch to the open method, which is very good so far. With this open method and the large quantity of ether it takes, there is a great amount of heat taken from the inspired air, which necessarily takes same from the lungs, which causes great loss of body heat. The greater the amount of ether used, the more heat is lost, which predisposes to shock and affections of the respiratory organs.

The open method was discarded by many of the best hospitals in New York City while I was an interne there, and the semi-open method, with Bennett's Inhaler, was

employed. This method I have used more than six years, etherizing all of my patients except about sixty, on which I tried other methods. I must admit, after my experience, that this is the best and the safest method I know of. This is a compromise between the closed and open methods. I won't describe this inhaler, as it is generally known. I begin with nitrous oxid to avoid the disagreeable odor and choking sensation of ether. Nitrous oxid lessens, and often eliminates, the exciting and struggling stage, which is the most dangerous part of anesthesia. I am compelled to think, from my experience, that too much stress has been put on rebreathing of ether as doing harm. Some may say that rebreathing diminishes the oxygen of the blood, with a respiration increased with carbon dioxide, which is true with the closed method or complete exclusion of air, but with the semi-open method there is no such danger. However, patients can stand more rebreathing and carbon dioxide without any harm than is generally thought, which has been proven to me time and time again.

Patients vary in the amount of aeration they require of the blood. Some take small amounts of air breathed through a moderate amount of ether. Many take large amounts of air and little ether; few take large amounts of air and large amounts of ether. These variations can be accurately controlled and regulated quickly by taps and valves on the inhaler for this purpose. I begin with the patient, after everything is ready and all preliminaries spoken of gone through with, by placing my mouth prop described, at the same time telling the patient that I use the prop so as to keep him from biting his tongue. This satisfies the patient, which is all that is necessary to say. The prop gives the patient something about which to think, which is important. Then, with the Bennett's Inhaler, I start with nitrous oxid until under, then the ether chamber is gradually turned on, diminishing the gas and increasing ether until the gas is off, then we get a good diffusion of ether vapor without risk of fluid ether getting to the patient's face. If here the ether is irritating, as is

sometimes the case, shown by coughing and holding the breath, air is needed. Excessive cough is often seen in smokers. With a patient who has had the preliminary hypodermic, and who is watched with care at this stage, and air admitted when needed, most always that dangerous struggling is avoided, and a smooth surgical stage is reached in from three to five minutes. The patient's hands are now tied with a wide bandage in the usual way. This keeps the arms from nerve pressure and injury when lifting and when on the table.

There generally is from five to ten minutes to complete anesthesia to the surgical degree after the patient has been transferred to operating room and table; therefore, I generally only anesthetize sufficiently to make the change safe. Patients do better when the operation is started at once when the proper degree of anesthesia has been reached, but the stage of incomplete anesthesia is always dangerous to do surgery under. The operator should bear this in mind, and wait until the anesthetist tells him when to begin. There is a class of feeble breathers throughout the operation which makes it difficult to regulate anesthesia, but fortunately respiration is generally stimulated sufficiently after the operation is once started.

Unfortunately, there is no positive sign that tells us when the surgical degree is reached. The signs that have proven to be the best are full, deep breathing, relaxation of jaw and arms, absence of eyelid reflex, and generally a mildly contracted pupil. The pulse at first is fast, but soon falls as the anesthetic increases and gains in force. Palpation of the cornea and conjunctiva is a bad practice, and tells us nothing. The patient, in the state of primary anesthesia, often has complete muscular relaxation and full breathing, which, in many respects, resembles a more complete narcosis, and if not carefully observed, may fool the anesthetist, but if the lid is raised resistance here is seen, and also rolling of eyeball. Up to this time of narcosis to the surgical degree, the administration of ether has been continuous, interrupted only by complications or accidents; from now on an intermittent administration is

what should be given. A much deeper narcosis is required at first to make the skin incision; generally afterwards very little ether has to be used if administered carefully. When surgical anesthesia is reached, one of the most common causes of obstructed respiration is paralysis of the muscles of the tongue and relaxed jaw. I overcome this by mouth prop and keeping the patient's head turned to one side and in one place. This placing the patient's head to one side keeps the weight of the tongue from carrying it back. Get the proper elevation for that particular patient's head, as a very large number of heads vary in this respect. Place the head in position which will relax neck muscles and give the greatest air space. Over-extension of head often causes dyspnea and cyanosis. Obstructed respiration is sometimes due to the assistant leaning on patient's chest.

If ether has been given in such amounts so as to threaten paralysis of respiratory center, put patient in Trendelenburg position, so as to concentrate the largest possible amount of blood to the medulla. If respiration fails to respond to this, make repeated traction on tongue with jaw pushed forward; also artificial respiration by Sylvester's method. Have assistant to divulge the sphincter and give hypodermic of atropin and strychnia. This atropin may be accelerated by giving also alcohol or ammonia. Ammonia given by inhalation stimulates the reflexes in the upper air passages. Adrenalin is very useful in lowered blood pressure from any cause. An intelligent nurse should be with patient during post-anesthetic stage, and there remain until patient has recovered consciousness. This very important part is often neglected, and sometimes left to nurses not trained sufficiently to protect the patient. I have gone back often, after leaving patient and instructions with attending nurse, to find no one in the room, and patient unconscious rolling around on the bed. Such a neglected patient is subjected to unnecessary risks, such as suddenly sitting up, rolling out of bed, or over on their face, vomitus, or some bed-clothing cutting off breathing.

Surgeons, I do not think, impress this important duty of the nurse enough.

I have never had pneumonia to follow ether, which I attribute mostly to clean cone, checking secretions, thus preventing aspiration of same; protection to patient during and after operation from chilling; small amounts of ether, with minimum amount of refrigeration. The amount of renal disturbance depends upon quantity of anesthetic used. When ether is carefully administered, at all times those large quantities I have generally been able to avoid, which, I believe, eliminates most of the ether irritations and dangers. The dose of ether I generally use for the average adult is oz. $3\frac{1}{2}$ the first hour, then much less at that proportion for longer administration. Robust men take a little more than this, women not so much; alcoholics, as is known, require large amounts, which I cannot estimate. I believe, as a rule, alcoholics do better after ether narcosis has been established, to then maintain anesthesia with chloroform. Often when you switch to chloroform this class of patients quiet down into a smooth narcotic state. Space prevents me from going further into anesthesia, and just with a few remarks about the anesthetist's fee and the surgeon in general, I will close.

The anesthetist hears, over and over, patients say: "I don't mind the operation as much as I do the anesthetic." Many of these patients speak of some friend who died from the anesthetic, which is often true. Statistics of anesthetics, given by competent men, show a small death rate, but if the death rate could only be gotten from that class of men who give an anesthetic now and then, it would be very high. Such anesthetists are employed very often here in Louisville. I have often heard it said that all an assistant needs to give an anesthetic is plenty of nerve. Anesthesia is difficult and requires practice, hard work and study for one to develop successfully who is especially adapted to this line of work. Some men with the best of chances never become skilled just for the same reason some surgeons never become skilled operators. The nerve strain is next to that of the surgeon. No doubt an anesthetic

can be given on the strength of nerve, and often is given by just such incompetent hands as these, and for skilled surgeons, who know well the dangers of such risks, who abuse that confidence and trust given them by their patients, whose lives they unnecessarily risk, and sometimes sacrifice. This sounds strange when you think it over. There must be reasons for this; what are they? Very often it is done just to save a few dollars difference it would cost to get a good anesthetist. How many patients would agree with these surgeons in saving these few dollars if facts were justly explained to them?

I heard discussed very freely, not long ago, at the Jefferson County Society, the anesthetist's fee, and many expressed themselves, and all agreed that the fees were not sufficient. I know from personal experience that often patients think that five dollars is the maximum instead of the minimum fee for all anesthetics, and they naturally feel like they are being overcharged when a bill is for any more. These patients are often able to, and would willingly pay, ten or twenty dollars, as the case may be, if they were only told before the operation just what to expect. The patients realize sometimes that the anesthetic is often more reasonable, in proportion to service and skill rendered, than the operation. If the patients were told, which is the truth, about how much more risk to life they run when the anesthetic is in inexperienced hands, not a one would hesitate or regret the ten dollars fee that a capable anesthetist deserves and should get. I grant there are exceptions to this, where the sliding scale is used up or down, but, as a rule, ten dollars should be the fee. These are facts, granted as such by many at the Jefferson County Society, and denied by none. A surgeon owes it to himself, as well as the patient, to have a proficient anesthetist for his own comfort, which lessens the nerve strain, and renders him more capable of doing quicker and better surgery. The anesthetist does and should give his service to charity when the surgeon does. It is the duty of the surgeon to protect the interests of his anesthetist, and see to it, as much as possible, that he gets his fee.

To give the average anesthetic means practically a half day spent going, giving the anesthetic and getting back to your office.

The proficient man is not appreciated, and there is very little encouragement in this line of work. The fees are not substantial enough for men who are well adapted, and who are so important for the success of surgery.

Anesthesia has been in its infancy for a long period. There is much to know, yet but few are willing to stick to this line of work long enough to become familiar with the first requirements of a good anesthetist on account of insufficient fees. The anesthetist should charge and collect his own fees. Very few words from the surgeon to his patient would make a more appreciative patient, who would gladly pay ten dollars or more for a skilled anesthetic. Some few cannot pay but five dollars, but this exception is not as great as now seen. If the surgeon would take a little time to explain to the patient, or whoever is in charge, not on the morning of the operation, but in time to let them be prepared. I heard a surgeon explain to his patient, which was worded something like this: "The mortality from anesthesia in the hands of experts has been shown and proven beyond all doubt by statistics that the anesthetic should be administered only by one who is skilled, and that ten dollars or more is the fee for such an anesthetic, payable to the anesthetist after the operation or in the next few days." It is a good plan for the anesthetist to send in his bill the next day, so as to get out of the case; his part of the work, when the anesthetic is given, has been completed.

These are good rules, tried and proven successful by some of the best surgeons. I hope these few remarks will help promote better understanding between the surgeon and anesthetist, and better fees, which will have to come for a man to specialize for any length of time in anesthesia.

I want to express my appreciation of the painstaking of Mr. Theo. Tafel in making my mouth prop so accurately, and also the alterations of my cone.

A NEW FORMULA FOR USE BY INTRAVENOUS
INJECTION IN PULMONARY
TUBERCULOSIS.

BY G. J. HYER, M. D.,
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PARDON me for making the statement that pulmonary tuberculosis is a curable disease; but I reiterate the statement that when the above is treated with an efficient antiseptic, applied directly to the seat of the disease in sufficient quantity, it is as curable as any other inflammatory or suppurative disease that the human system is subject to.

I readily realize that the above statement will be received on first thought with several degrees of doubt, but don't think me egotistical or self-conceited enough to presume that I could present some imaginary or theoretical theory to an intelligent people and have it accepted as a fact. And for that reason what I am going to say is not based upon belief, but upon the experience, not only of myself, but of many physicians in the different sections of the country, who have been treating the above unfortunates with the remedies and method that I will hereafter describe.

When one goes back for several hundred years, and reviews the different theories and literature, as well as the methods adopted in the different periods, and when they take up the more modern text-books and theories promulgated by different writers, and those who claim to be experts, both in the pathology and treatment of that class of unfortunate people, it would be natural to suppose that the field of investigation had been exhausted. But I am free to confess, the more I read, and the more theories I found advanced by different writers and practitioners in different parts of the world, the more confused I became in regard to the proper method of treatment, for each writer appeared to present a different view from his neighbor; and after reading the literature one could form no more of an intelligent conception why tuberculosis was

not curable than though he had read Mark Twain's "Innocence Abroad." From the simple fact that any one who has followed both the ancient and modern literature on the subject must conclude that it was confusion compounded.

I will admit the etiology and pathology of the disease is very thoroughly understood, but when we come to the treatment we find again just as great a diversity of opinion, and a greater diversity of remedies and methods running through the whole series of years that physicians have been experimenting with the unfortunate sufferers. And, strange as it may appear, it has all been along the same channel, varying a little at different periods, the variation consisting principally in the therapeutical remedy. When we go back and look over the field as it has been surveyed, we find the different theories and remedies have been advanced and adopted by the medical profession for a certain period. When that would die of a natural death, some other new drug would come into existence, and so on through the whole course, until one would naturally suppose that the whole field of experiment had become exhausted. Each one administered practically the same as the other, with the result invariably following—the undertaker.

Having had two years' experience in a sanitarium, where we treated consumption by all the known methods at that time, and realizing the failures that followed, I became thoroughly disgusted, and left the institution. But believing then, as I fully realize now, that there was no disease that the human system was subject to but what was curable if treated with an efficient remedy at a reasonable time of its existence, and an efficient method of administering the medicine to the seat of the disease. That induced me to start out on the broad ocean of investigation, as the old saying is, "In my gum-tree canoe, without chart or compass to guide me into the harbor of success," believing, as I do, that knowledge, and the result of knowledge, is unlimited. If that was not true, then we must acknowledge that all that there is in the world

has been acquired, and further progress has come to an end. That being a fact, further investigation would be useless. But I could not bring myself to realize but what there was yet something to learn; and believing, as I did, that consumption was curable, started me to investigate.

The first suggestion was to find an efficient remedy, and reasoning on the philosophy of efficiency, that it must be one of definite antiseptic nature. For that reason, if consumption was curable by medical treatment, the remedies used must of necessity be of an efficient antiseptic, and, therefore, I abandoned all of the theories that were going the rounds in regard to the serums, the creosotes, the emulsions, and forced feedings, and breathing the same air in which the disease was contracted. I started out to find the remedy. After considerable experimenting, I brought into existence an antiseptic of which I will give the formula later on. It contained therapeutical qualities different from any other. It was non-irritant when applied to healthy mucous surface or membrane. It was anti-fermentative and non-toxic. On applying it to the vegetable ferments it proved to be an absolute pacific, not only in preventing fermentation, but stopping it at any stage of its fermentative action. It proved also, when applied to fresh wounds of various kinds, that it would allay inflammation in a very short time. Its action was also very efficient in all ulcerated or suppurative conditions. I could go still further, and say that it is an absolute preventive; that it will prevent decomposition in dead tissue, that it will stop decomposition in the same at any stage of its decomposed condition, and the material will remain so permanently. After making the above experiment, and using it in various ways myself, as did many physicians in treating local conditions, amongst others, the most virulent and malignant carbuncle of which one could possibly conceive, with results that were apparently incredible. I decided that it contained all the necessary antiseptic virtues for the curing of pulmonary tuberculosis. I concluded that it would be an efficient remedy in the treatment of tuberculosis, if an efficient method could be found in introducing

it directly to the seat of the disease, and that led me to the next consideration. After exploding several impractical experiments, I adopted the method of introducing it directly to the lung through the circulation, and I am happy to say that the success has proven so far beyond what one might reasonably hope for.

Here permit me to give the ingredients and the strength of the medicine that we use. Formulæ: I take an ounce as the base in making it. I take three drams of salicylic acid and one dram of carbonate of guaiacol, and by a combined method I reduce them to a liquid without adding anything whatever to the contents. After they are liquified, I then add that liquid to glycerine sufficient to make an ounce. You will find represented in that ounce 240 grains of the acids before dissolved, all of which makes a very homogenous solution.

Now the method of its use: First, we take a douche bottle containing from 8 to 10 ounces of water, sterilized, normal temperature. We add to that from 5 to 6 drams of the medicine, the proper quantities, as we think, suitable to the patient. Attached to the bottle is a small rubber tube about four feet long, having in the end a small needle, commonly called an aspirating needle. Then we select one of the veins, usually of the arm, using a local anesthetic in order to deaden the sensation. We then make a short incision in it, and insert the needle in the vein (letting a person hold the bottle containing the medicine), and let the contents run by gravitation into it, mingling with the blood, whence it is carried directly to the lungs, stopping fermentation, arresting decomposition, making the healthy portion of the lung a septic when a healthy physiological action takes place; also realize that the blood containing the medicine is carried through the entire body three times every minute, destroying the toxine or poison contained in the whole system, and causing it to be eliminated from the body. Then the person begins to receive the benefit of nutrition from the food he eats.

I have now given the reasons why I commenced the investigations to find a new method, one that was more

efficient and applicable for the treatment of consumption. I am free to confess that the method is revolutionary in principle, and contradictory to all the teachings of chemical application. I know of no principle in chemistry which would sanction the putting of an acid in the circulation of the blood, which is an alkaline. And for that reason, when representing or describing to physicians the method, and the medicine, and the quantity we use at a treatment, they will throw up their hands with holy abhorrence that such is impossible, that it is contrary to all the principles of physiology and chemistry, and they cannot conceive how it is possible for a person to live under a treatment of that kind. But it is like many other things. As a rule, all the advances and revolutions are condemned to be impossible, but nevertheless, the fact remains that it is not only possible, but that is absolutely permissible and harmless to the patient. Out of 1,500 times that it has been administered by physicians in different sections of the country, ranging from Kansas to Ohio, we have yet to learn of the first case where there has been any injurious or threatening conditions of any character whatever. But, on the other hand, the immediate relief that followed the treatment is one of the remarkable phenomenas, not only to the patient, but to the physician who sees it administered for the first time.

Now, as to the immediate effect resulting from the treatment, the first perceptible sign is the increased and easy breathing of a person. That is perceptible before the treatment is completed. From a half to an hour after the injection there follows a peculiar chilly sensation. That will last usually from 25 to 35 minutes. From that there will be an excessive perspiration. A person will become as wet as though dipped in a bath. Its duration varies from two to six hours. During that time they will have a rise of temperature, and as a rule some increase in pulse rate. When the perspiration ceases, the temperature, pulse rate and respiration will become normal and easy. Expectoration will become very profuse, varying in duration of time according to the severity of the disease. The appetite be-

comes good, sometimes excessive; the secretions clear, the whole condition of the person appears to be changed. Now, what brings on the chilly sensation is a question that has not been fully determined, but the consensus of opinion is that it is the action of the medicine on the toxine. Let that be as it may, it is good and interesting as a scientific principle. But the gist of the whole thing is the cure. That is what interests the patients and their friends, regardless of the method adopted. I am asked the question, "What evidence have you, or how do you know when a person is cured of the disease?" My answer to that is, "The same principles which any physician adopts for ascertaining if any one is afflicted with the disease." For instance, when the cough and expectoration cease; when the temperature, pulse rate and respiration become normal; when there is free and easy breathing, and chest expansion is normal; when there is a negative result following the tubercular skin test, and when the hemoglobin resumes its normal gravity, and a person remains in that condition for thirty days without taking any treatment whatever, you can rest assured that they are freed of all tubercular conditions. For, when the red corpuscles are receiving their normal quantity of oxygen, tuberculosis cannot exist in the system. Those are the positive signs that one can rely upon, and here permit me to say I have yet to learn of the first case that has been cured by this method and remedy, where there has ever been a lapse or a return of the disease.

The questions propounded by physicians and others in regard to the curative method of the above treatment is: "I suppose the medicine that you use kills the tubercular bacilli?" My answer to that question is, that it unquestionably does, for experiments that I have made demonstrate that fact; but that is not the philosophy that I base the cure upon. I regard the bacilli as the secondary, and not the principal, cause of tuberculosis. Or, in other words, they are the production of the disease and not the origin. No intelligent person will try to deny their existence. But that does not necessarily imply that one must

kill the bacilli in order to cure the disease. My reasons for making that statement are as follows: I first commence by taking the sputum from a tubercular subject, and apply a little of the medicine that I use to that, and I find it to be perfectly sterile or non-productive; or in other words, you get negative results. Therefore, you see that you have destroyed the elements necessary for its production. I will state, as my conviction, that you have neutralized the fermentative action of the media, and for that reason you do not have the production of the bacilli. Now, taking that as a basis, I do not believe that it is necessary to kill the bacilli. When I investigate the experiments of scientific investigators, I find an acknowledgement by them, according to scientific investigations made by them, that one person in the ordinary condition of tuberculosis will expectorate from three million to four billions of tubercular bacilli in twenty-four hours. If that statement is correct, which I have no reason to dispute or doubt, then it must be evident to any person of a reasonable mind, that the bacilli that is being expectorated is generated or produced by the diseased condition of the lung, and that leads me to the conclusion that in the place of trying to destroy the bacilli, the proper thing to do is to destroy the condition which produces it; and when you do that your bacilli becomes harmless. That is the basis on which I place the efficacy of this treatment. I am aware that this is not the accepted theory of what you might term scientific investigators; but, nevertheless, science is only correct as far as results sustain it. Beyond that it becomes a more ethereal vapor.

And here permit me to say that the results of success, as reported by different physicians in the different sections that have been using the above treatment, including my own experience, have been about 75 to 80 in a hundred; and those patients taken promiscuously, many of them given up as hopeless, many of them in the third stage of the disease; and those we have lost were persons with serious complications accompanying the tubercular condition.

I presume that I will be severely criticized in the statements that I have made. But, nevertheless, when one has the facts, and can demonstrate those facts to any intelligent and investigating body of fair-minded men of the medical profession, then one need not be afraid of all criticisms made, because success does not depend upon the theory, or upon what men's opinion may be. It is proof of itself. If it is not a success, it will die of a natural death. If it is a success, condemnation cannot kill it.

Saying this much, I am content to leave the subject for others to judge of its method and efficiency. All I ask is a fair and impartial investigation, and I am ready to abide the results.

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INCREASING PREVALENCE OF ANIMAL TUBERCULOSIS.*

BY A. D. MELVIN,

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WASHINGTON, D. C.

The reports of the Bureau of Animal Industry of the United States Department of Agriculture indicate that tuberculosis among live stock is steadily increasing, as shown by the number of animals found affected at the various slaughtering centers. The increase in the number of cases found is due in part, but only in part, to the increased efficiency of the method of inspection. The meat inspection figures show that nearly one per cent. of cattle and over two per cent. of hogs slaughtered are tuberculous, which is surely an alarming condition.

Feeding experiments conducted by the Bureau have proved conclusively that hogs are readily infected through the ingestion of feces and milk from tuberculous cows. There is therefore no doubt that the prevalence of the disease in hogs could be greatly reduced simply by eradicating it from cattle.

Considerable testing of cattle has been done in Washington, D. C., and vicinity for the purpose of assisting the District authorities in obtaining a pure milk supply, and of obtaining for the Bureau further information regarding the extent of tubercu-

* Press article from the Bureau of Animal Industry, U. S. Department of Agriculture.

losis in the locality and for other purposes. In these tests about 17 per cent. of the dairy cattle reacted.

The percentage of tuberculosis in various States, shown by tests conducted by the officials in those States with Bureau tuberculin, indicates that from 2.79 to 19.69 per cent. of the cows react, and it is estimated that in the country at large at least 10 per cent. of the cows in dairy herds are tuberculous.

The recent agitation against the milk of tuberculous cows as human food has had the effect of causing many herds to be examined with astonishing results, not only to the owners but to the officials themselves. Can it be wondered at that so many infants and children die of intestinal tuberculosis when so many of the cows from which milk is obtained are tuberculous?

Without considering the matter as a public health question, but looking at it entirely from an economic standpoint and as a business proposition, livestock raisers cannot afford to have tuberculosis in their herds. As an illustration, Argentina requires that all cattle imported into that country shall be subjected to the tuberculin test upon arrival, and as a consequence exporters from the United States have had the test made on cattle intended for shipment. The results of these tests showed that in some of the purebred herds nearly 50 per cent. of the animals were diseased and in consequence sales were lost.

When the practice becomes general for all buyers of breeding cattle to have animals tested before placing them in their herds the breeder of strictly healthy cattle will be much sought after. Already some breeders of purebred cattle have established or are arranging to establish such herds. As soon as the breeders fully understand the fact that it is unprofitable to go on breeding cattle while tuberculosis exists in their herds, much of the objection raised against the sale of livestock subject to inspection will disappear, for it would be worth the price of several condemned animals for the owner of a valuable herd to know the fact as early as possible if the disease exists in his herd, as the longer he delays in taking steps to prevent its spread the greater will be his loss eventually. Figures for the last year secured from abattoirs where Federal inspection is maintained show that over ten billion pounds of meat was inspected, forty-six million pounds of which was condemned, nearly three-fourths being for tuberculosis.

The recent effort of the large packing interests to buy all dairy cows subject to post-mortem inspection shows how serious

the plague is becoming. Sooner or later the man who raises tuberculous animals must suffer the loss, unless the loss is paid for out of public funds; and when the loss is placed upon the producer we may then know that the end of the disease is in sight.

It may at some time be necessary for the Federal Government to quarantine against interstate shipments of cows from certain States where the disease prevails to a considerable extent and require a strict supervision over all animals removed from such States for interstate shipment, and only remove the quarantine from sections of the State when it has been demonstrated that the disease either has been eradicated or is under strict local quarantine.

Recent Progress in Medical Science.

PRIMARY AND SECONDARY SYPHILIS.

A Ravogli, Cincinnati, (*Journal A. M. A.*, December 12), has found in his treatment of syphilis, that in the malignant forms of primary syphilis, the symptoms are much more precocious, the period of incubation is shortened and the constitutional manifestations are hastened. This he explains by the power of the organism to produce antibodies opposing the invading germs. That this occurs in syphilis has been lately demonstrated; in the serum of syphilitics, products are present which are not found in normal serum. A lack of antibodies prevents a pronounced primary reaction and the unimpeded spirochetes are the more free to invade the whole organism. The idea that syphilis constantly follows the lymphatics to invade the system is no longer tenable, for there are many cases in which the infection is very rapid and can be traced to the extension of the virus through the blood vessels. Ravogli refers to several cases illustrating and confirming his views. The treponema, as Hallopeau and Gaston believe, undergoes changes in the organisms in the different stages of the disease, thus accounting for the different symptoms. The germs can also spread through the tissues by continuity, and this may be facilitated by increased virulence, or accounted for by a lack of resistance in debilitated conditions of the system. If the defensive glands have been injured by previous disease, the infection becomes the more dangerous. On the enfeebled condition of the system, the inability of the organism to produce antigens, and the passive conditions

of the leucocytes depends the factor of malignant syphilis. External injuries and irritations favor the local lesions in this way. According to the views of Hallopeau and Gaston, the persistency and stubbornness of the papulosquamous syphilides of the palms and soles must be due to the hard thick skin of the part in the interstices of which the germs propagate, and are in a measure, protected from the action of remedial agents in the circulation. It is difficult to foresee whether we will ever find an antisiphilitic vaccine, but in mercury we have a remedy that directly attacks the spirochete, and the recent discovery of the specific action of atoxyl on the disease, has, he believes, added another valuable remedy. Whether it is to replace mercury, or be used in conjunction with it, or whether mercury will still be our main resource, only time and experience will tell.

DIAGNOSTIC SIGNS OF ERYSIPELAS.

Milian in *Progress Medicales*, (*Pacific Medical Journal*, January, 1909), gives three signs always present in erysipelas and absent in other conditions, with which it might be confounded, such as acute eczema, dental abscess, parotiditis, etc. 1. The sign of maximum involvement at the periphery. In erysipelas the area of greatest swelling, redness and pain is at the margin or periphery and advances with the spread of the disease while the area of original involvement tends to clear up, in that manner contrasting with abscess wherein the central area shows the greatest change.

2. The sign of the ear. Ordinary inflammatory processes tend to arrest as the ear is approached on account of the lack of subcutaneous tissue over that organ. Erysipelas being a dermatitis continues its spread over the ear.

3. The sign of painful pressure. In erysipelas the area of greatest tenderness is at the periphery of the involved region in contrast to the tenderness of other forms of inflammation which are usually central in location.

SKIN DISEASES IN THE NEGRO.

Howard Fox (*Journal Cutaneous Diseases*) has made an exhaustive statistical study showing the comparative frequency with which the various cutaneous disorders occur in the white and black races. His main conclusions are as follows. The negro is more susceptible to disease in general than the white

man, his mortality being twice as great, yet he suffers less severely from diseases of the skin. The full-blooded negro is almost immune to ivy poisoning, his skin being very little influenced by external irritants. Acne is less common and much less severe in the negro. Psoriasis is unusual. Rosacea is mild in type, and rarely encountered. Eczema is seen with about the same frequency as in whites, but not so severe. Tuberculosis of the skin is not more common in the colored race, in spite of the great prevalence of pulmonary and other forms of tuberculosis. Syphilis occurs more frequently. The degree of virulence is about the same. There is a greater tendency to annular forms, as well as elephantiasis and keloid. The negro is more subject to new connective tissue growths, and less so to those originating in epithelial tissues. The mucous membranes are less susceptible to disease than in the Caucasian race. Leukoplakia is rare. Mulattoes are not so immune to skin diseases especially chloasma, as negroes.

CYSTITIS.

Davison, (*New York Medical Journal*, August 22, 1908), describes the interior architecture of the normal bladder as seen by cystoscopy. In the etiology of cystitis he regards trauma, congestion and retention of urine as the predisposing causes and micro-organisms, of which the colon bacillus is first in order of frequency, as the direct cause. The gonococcus, strange to say, appears eighth on the list in Casper's classification, which Davison quotes. A few bacteria throw off ferments which decompose urea forming a carbonate of ammonium. The chemical reaction of the urine in cystitis is usually acid. Bacteria may gain entrance to the bladder in many ways, of which the urethra is the most common. The length of the male urethra protects the bladder from invasion to some degree, but the short female urethra offers little protection. Descending infections from the kidneys and ureters have of late been given an important place in the causation of cystitis. Davison discusses the pathology, symptomatology, diagnosis, prophylaxis and treatment, which includes free use of pure water, light and bland food, prohibition of alcoholic beverages except in the weakened and aged, and the administration of hexamethylenamin. In acute cystitis the patient should be put to bed with hips elevated. Heat and anodynes are recommended, and infusion of buchu seems to possess curative properties. In chronic cystitis the cause must be re-

moved, the bladder cleansed by irrigation, the reaction augmented, and the local blood supply improved. He gives various antiseptic solutions for irrigation. In the female the short urethra allows topical applications to be made, e. g., a ten per cent. solution of silver nitrate applied through the Kelly cystoscope. The author is not in sympathy with the cystotomies done for the relief of cystitis in women or in men. It is questionable whether they should ever be done, with the possible exception of cystitis caused by a malignant growth in the bladder. The procedure is opposed in every sense to the pathology present.

Book Reviews.

"A MANUAL OF THE PRACTICE OF MEDICINE,"—by A. A. Stevens, A. M. M. D., Prof. of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania. 8th Edition. Revised. 12 mo. 539 pages, illustrated. Philadelphia and London. W. B. Saunders & Co., 1907. Flexible leather, \$2.50 Net

Rare good judgment, sound common sense, a thorough knowledge of the subject and considerable experience in teaching are the necessary requisites of him who essays the task of writing a text-book on medicine that is to become deservedly popular; and it may even be said that the magnitude of the task is increased when attempting to write a condensed, or hand book, on any given subject; for the author, no matter how able or conscientious he may be in writing a hand book on any subject, is open to criticism. If he is too brief they will criticise him for omitting some important matter from his subject saying that his book is worthless; on the other hand, if he is too voluminous they will say that his work has exceeded its limit, that it is a treatise and not a hand book, and is accordingly unsuited for the purpose for which he designed it.

Dr. Stevens has, we believe in this case, avoided the difficulties of both Scylla and Charybdis, and we likewise believe that the value and popularity which his book has merited shows him to be possessed of the above mentioned requisites and qualifications for writing a hand book. This little book of some 539 pages comprises in a reasonably small, readily handled and tasty little volume all the essentials for a fair working knowledge of the practice of medicine. The book gives due attention to all the conditions ordinarily classed under the subject of medicine, a good chapter on Diseases of the Nervous System and likewise

(by the way a thing that is not very common) an excellent and concise little chapter on the essentials of the Diseases of the Skin and Its Appendages. The book is so arranged that each article can be readily and quickly found, and when found either the student or the young practitioner can refresh his memory and gain an excellent idea of the symptoms, pathology and treatment of any given disease in a very short time. Each disease is defined, its synonyms are given, etiology is discussed, pathology briefly outlined. Careful attention is given to diagnosis and differential diagnosis in so far as necessity demands. The prognosis is briefly outlined and treatment given due care and attention. We would particularly commend the subject of treatment, to which he has devoted considerable attention, and at the same time not losing sight of brevity and practicability. We predict for this little volume many friends and a wide circulation. It should prove profitable and beneficial for the spare moments of the advanced student and the busy young practitioner. We wish the little volume well and heartily commend it to our patrons.

S. B. H.

BOOKS AND PAMPHLETS RECEIVED.

THE HOUSE FLY AT THE BAR—Indictment Guilty or not Guilty, April, 1909. The Merchants Association of New York.

U. S. DEPARTMENT OF AGRICULTURE REPORT NO. EIGHTY-EIGHT.—The Influence of Sodium Benzoate on the Nutrition and Health of man. Washington, Government Printing Office. 1909.

MEDICAL AND SURGICAL REPORT of the Presbyterian Hospital in the city of New York, Vol. eight, December 1, 1908. Edited by John S. Thatcher and George Wolsey.

THIRTY-FIRST ANNUAL REPORT of the Department of Public Health, Augusta, Ga. 1909.

LELAND STANFORD JUNIOR UNIVERSITY—Department of Medicine. Preliminary Announcement February, 1909. Published by the University.

When the physician finds it necessary, in disorders of digestion, to promote secretory activity by different remedies, this object can most certainly and completely be achieved by endeavoring to restore the appetite.

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The efficiency of a medicinal agent cannot be determined by mere physical appearance. Two specimens of fluid extract of digitalis, for example, may look precisely alike. One, upon administration, may exhibit a wholly satisfactory therapeutic action; the other, given under precisely the same conditions, may prove to be practically inert. Lack of uniformity in the crude drug, and absence on the other hand of an adequate method of assay, account for the singular discrepancy. And this serves to show the necessity of standardized remedial agents if we would proceed in the treatment of disease with any assurance of success. It emphasizes, too, the futility of trusting to chance that the extract of a crude drug contains what the practitioner supposes it to contain and what it ought to contain.

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THE American Practitioner and News.

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F. W. SAMUEL, A. M., M. D., SAMUEL BROWN HAYS, M. D.,
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OCULAR DISTURBANCES DURING PREGNANCY.

BY ADOLPH O. PFINGST, M. D.,
LOUISVILLE, KY.

We find among women a tendency to erroneously associate many ocular disturbances with the pregnant state. Yet with the exception of retinal disturbances, affections of the eyes coming on as a result of pregnancy, are very infrequent and of little importance. Some of the minor ocular conditions occurring during pregnancy are looked upon as physiological phenomena. Chiefly among these may be mentioned the increased sensibility to light, occurring along with increased excitability of all of the special senses. The nervous system in some women may become so impressionable during pregnancy that the patient enters into a state of hysteria as a result of which various ocular symptoms may arise. Conditions of this kind have been reported in cases of temporary hysterical amblyopia, and hemianopsia.

In the latter weeks of pregnancy a reflex anemia of the retina has been known to produce temporary defects of vision. In

the same period muscular asthenopia and weakness of the accommodation have also been observed, making reading difficult or sometimes impossible. These functional disturbances have little significance; however, ocular conditions of a grave nature, the result of organic disturbances, are met with in pregnancy.

All of them, with the exception of detachments of the retina, which has been observed quite frequently during the last months of gestation, are secondary to pathological changes occurring in the kidneys.

The frequency of albuminuria during pregnancy has been variously placed from 6 to 40 per cent. Edgar believes that albumen is present in 40 per cent. of cases either during gestation or immediately after delivery. However, the majority of obstetricians place the frequency closer to 6 per cent., and some even lower.

The percentage of eye involvement depends upon the nature of the renal changes, and as the prognosis and treatment also depend in a measure upon the condition of the kidneys, it is important in cases of this kind to endeavor to determine the nature of the renal disease present.

The most common cause of albuminuria of pregnancy is what pathologists call the kidney of pregnancy. The epithelial structures of the kidneys undergo fatty degeneration and rapid exfoliation. There are no inflammatory changes. The quantity of urine in these cases may be normal, but is usually diminished, and as a rule contains considerable albumen, and some epithelial cells having undergone fatty changes. It may contain considerable hyaline casts, but few granular. The quantity of urea is diminished.

The pregnancy kidney has been attributed to various causes, some holding that the disturbance in metabolism of the epithelial cells is the result of anemia brought about by direct pressure on the kidneys, while others believe that a congestion due to interference with the return circulation of the kidneys by pressure upon the veins is the cause. The most modern version of the cause is that a toxic condition of the blood occurs during the pregnant state, which either affects the kidneys and retina alike, or that the kidneys are affected primarily, the retinal disturbance being secondary to the renal disease.

This form of kidney, when it affects the eyes, does so in the latter months of gestation, causing a uremic toxemia, probably

by blunting the sensibility of the light perceiving or light conducting elements of the retina.

The onset of the visual disturbance in these cases is sudden. No pathological changes are visible with the ophthalmoscope, the fundi being normal unless changes independent of the uremia pre-existed.

The prognosis in cases of this kind is good as far as the ocular function is concerned, the vision returning to normal after the removal of the cause of the uremia. As far as the life of the mother is concerned, the prognosis is not so good as uremic amblyopia denotes an advanced uremia in which the danger of eclampsia and death is apparent.

Obstetrical text books also speak of a malign influence of the uremic poisoning upon the fetus, and that these children if allowed to go to full term, are poorly nourished and frequently die several hours after delivery.

The line of treatment employed in cases of this kind is about the same as in uremia uncomplicated with amblyopia, viz., rest in bed, careful dietetic management, application of heat over the region of kidneys, and the administration of salines and diaphoretics. Failure to bring about changes in several days, especially with persistent headache, and prevailing stupor, the induction of labor would seem justifiable.

The other causes of albuminuria of pregnancy are the acute and chronic nephritis, both of which may be accompanied by organic changes in the retina. Acute nephritis occurs very exceptionally in pregnancy, albuminuric neuro-retinitis of pregnancy occurring nearly always in the chronic form of nephritis. About 8 per cent of the renal cases have eye involvements and according to Silex one case of albuminuric retinitis occurs in every 3,000 pregnancies.

The kidney disease may have existed before the pregnancy, in which case well marked symptoms of the disease may show themselves in the early months of pregnancy. Whenever the first symptoms of renal disease arises—say after the sixth month, the assumption of the beginning of the trouble during pregnancy is justifiable.

The interior of the eyes in albuminuric retinitis does not differ from the condition met with in albuminuric retinitis from other causes. The first changes are usually observed about the

optic disc (neuro-retinitis), followed later by the characteristic deposits in the retina, radiating from the macula.

In some cases various sized hemorrhage areas are found scattered over parts of the fundus, the result of diseased blood vessels. Visual disturbances vary in these cases and are in no way in proportion to the area of retina involved, extensive pathological changes causing at times slight disturbances of vision, while minute changes may affect the vision perceptibly. High degrees of amblyopia have been observed but complete blindness is rare. Both eyes are nearly always affected, though not always in the same degree. The defect of vision is usually insidious in its development. It may be mentioned that uremic poisoning may suddenly develop during albuminuric retinitis and cause sudden blindness.

While a gradual diminution of vision in apparently normal eyes and the presence of albumen and granular casts would lead one to suspect retinal changes in these cases, a positive diagnosis can only be made with the ophthalmoscope.

While the occurrences of retinitis in the course of Bright's Disease is always considered a grave complication, indicating an advanced stage of the disease, the prognosis for life in retinitis of pregnancy is better than in other cases of renal retinitis. Nettleship (*Ophthal. Hospital Reports*, 1903), reports 22 cases of pregnancy retinitis of which only five died in the seven years after the labor, and only one within two years. Culbertson has gathered statistics of cases of the kind and reports 23 per cent terminating in blindness, 19 per cent in complete and 58 per cent in partial recovery of vision.

The prognosis with reference to visual acuity is not altogether unfavorable, total blindness being exceptional and improvement in vision after induction of labor being at times quite marked. However the higher the degree of amblyopia during the pregnancy the less hopeful would be the prognosis for the mother after the removal of the cause.

The treatment of these cases opens up the most interesting part of our subject, as there is a moral as well as medical question to decide. Although I believe that the premature induction of labor should be done most reluctantly, I feel convinced that such a procedure is justifiable under certain conditions. From the standpoint of the ophthalmologist I would say that marked

diminution of vision with pronounced fundus changes is cause sufficient to advise an immediate culmination of the pregnancy. The termination of labor is nearly always followed by improvement in vision.

Hirst, Silex and many others advocate interference with the pregnancy in every case of labor, complicated with Bright's retina. As the danger of permanent blindness increases with the duration of the inflammation, some advocate the induction of labor in these cases if occurring before the 6th or 7th month, and unless retinal changes be very pronounced, the disturbance of function great and urinary examination unfavorable, dietetic and medicinal treatment is advocated when occurring later.

The following brief report of a typical case of Albuminuria of pregnancy may be of interest.

Mrs. M.—aged 25, multifera was seen Jan. 25th, 1909. She was about 6½ months pregnant and had shown symptoms of Bright's disease for about 5 months and had complained of impairment of vision for about two months. Examination showed marked changes of the fundi typical of albuminuric retinitis.

The patient could then only see movement of hands at about 3 feet with each eye. The urine was scant in quantity, and contained a large amount of albumen and granular and hyaline casts. As I felt sure that blindness would result if gestation were allowed to continue to the normal period the induction of labor was recommended. This was done and the patient made a good recovery.

I saw the patient about a week ago and found that both retina had cleared considerably and that vision had improved in proportion. She had 20-70 on the right and 20-100 on the left.

In another case of Bright's retina of pregnancy which I recall, the retinal disease developed late and when I saw her in the beginning of the ninth month, she had 20-50 vision on both eyes, with characteristic fundus changes in the eyes.

Owing to the late stage of the pregnancy and the fair vision this woman was allowed to go to full term. She made a good recovery and her vision was restored almost to normal.

ATHERTON BUILDING.

Traumatic perforations of the septum have thin edges; in syphilitic perforations the edges are thickened.—*American Journal of Surgery.*

STREPTOCOCCI.

BY E. S. ALLEN, M. D.

The time has arrived when the student, in order to understand the nature of many a given disease, must be familiar, not only with its morbid anatomy and its morbid histology, but also with its parasitology. How essential this knowledge is may be appreciated when it is known that the morphologic pictures recognized as diseased conditions of organs and tissues, and the physiologic consequences recognized clinically as symptoms of disease, may all be charged to the presence and activity of microparasites.

Microparasites and their disease producing tendencies in the human flesh are of most concern to the medical man of to-day. Parasitism is a product of evolution; its various adaptive stages can be seen even now, obligate parasitism representing the highest state of adaptation, with all the intermediate variations to the state of obligate saphrophytism, and as the saphrophytes, through evolution, are developing into obligate parasites or pathog micro-organisms, more importance is to be attached to these intermediate stages of evolution.

These microscopic disease-producing plants demand our study, for they are too frequently exacting from the human race the extreme penalty of death, and among the races that are making most headway, armed with a poison for which we have no antidote, is the *Streptococcus*.

These minute unicellular plants, while apparently of simple structure, are, nevertheless, but little known, so far as their finer morphologic details and their significance are concerned. However, much lack of knowledge must be ascribed to their being almost at the extreme range of microscopic vision as it is perfected today.

The streptococci is distinguished, morphologically, from the other cocci by the marked tendency which the individuals exhibit, while growing, to hang together in longer or shorter chains, is immobile, stains easily, and lately it has been demonstrated as having a capsule. It grows steadily but slowly on ordinary culture media, does not liquefy gelatin, coagulates milk and develops a hemolytic substance.

The chain cocci of pus are most frequently encountered in their parasitic abode and, while capable of existing for a time at least outside of the animal body, the slow growth on culture

and the short-lived existence of many of the races point to a well advanced adaptation to parasitism. These characteristics are not uniform. The streptococcus pyogenes are to be looked upon as a bacterial group of several closely related races or varieties. Some of the more common variations in form to which the streptococci are subject appear in length and arrangement of the cocci composing the chains when growing in fluid media, there being cultures in which diplococci alone appear. Others with change are from four to six small cocci and longer chains with both small and larger elements. Hence such names as streptococcus-longus, brevis, conglomeratus, gracilis and involutus have been applied, some observers implying a specific difference, yet compared with slight changes in culture media, or a sojourn in the animal organism, is effective in changing these morphologic characteristics.

The linear continuity by which the streptococcus chain is produced results from the division of the individual spheres through an axis uniformly at right angles with the chain, but the plane of division is easily disturbed, the consequences being various irregularities in the chain. A division at an acute angle suffices to start a new lateral chain of cocci looking like a branching from the present series. Various inhibiting and accelerating influences encountered under laboratory conditions further affect the individual cocci and certain influences are concerned in the production of the so-called bizarre streptococci which assume the shape and general appearance of polymorphus bacilli like those shown by the diphtheria, but by transportation from blood serum to broth the irregular bacilli-like elements of certain streptococci are transformed into minute uniform spheres cohering in long chains.

The question arises as to whether we have to deal with different races of streptococci, or whether the same race, under certain influences and environments, assumes certain morphologic characteristics; or whether these morphologic characteristics are different stages of evolution of the streptococcus pyogenes from some lower type of saprophytic micro-organisms.

From the standpoint of pathology the most significant life phenomena of pathogenic bacteria is that of poison production. It has been satisfactorily demonstrated that toxic substances are elaborated by bacteria, both within the living host and in the laboratory culture media. To what extent these poisons are

generated from the albuminous substrain in which they grow, and to what extent from the internal metabolic activities of the bacteria themselves, are not determined—probably from both.

In the living body the part played by the living cells and juices is no small one in making up the picture of a given disease. The poisonous products of bacterial activity are ptomains, toxins, toxalbumins and toxoids.

Ptomains.—Crystallized alkaloidal bodies, generally originating from bacterial decomposition of dead animal matter.

Toxins.—Poisonous substances contained in the bodies of living or dead bacteria or secreted by them.

Toxalbumin.—Non-crystallizable, presumably proteid bodies, not intimately associated with the proto-plasm of the bacterial cell; and Toxoids, which are modified toxins in which the original potency has been lost spontaneously, as by age or heat, but which still are capable of conferring artificial immunity. It is to such toxic substances that the pathogenic micro-organisms owe their disease producing power.

One of the most important features of this relationship of streptococci pyogenes to man is the frequency with which it enters as a concurrent pathogenic agent in already established infectious diseases due to other micro-organisms, as scarlatina, diphtheria, typhoid fever, tuberculosis, etc., and the fact that it is most probably the chief offending agent in so many different morbid lesions, makes us realize how limited our knowledge is of this race of microparasites.

There is but little doubt that bacteria have a more or less fixed chemical molecular makeup and as the toxins of different micro-organisms are responsible for different pathological changes, there is certainly a difference, at least, in the molecular arrangement of their chemical composition. We know approximately that they contain a certain amount of nuclein, amido and diamido elements, carbo-hydrate, toxic heamolytic and haemoglobin-splitting elements, and that these elements are chemically combined in the cell from the fact that they are not extracted by agents acting physically as solvents, but are separated only by those agents which split up the molecule.

There is no doubt, too, that bacterial toxins manifest elective action for protoplasm according to the chemical makeup of the cell, for we have evidence of the diphtheria toxin manifesting an affinity for, and combining with, certain cells of the nervous

system, most favoring the motor cells of the anterior horns of the cord and the peripheral nerves.

That the tetanus toxin also involves the nervous system, producing a swelling of the chromatic granules, nucleolus and cell-body, followed by progressive chromolysis which may go on to disintegration of achromatic substance.

That the typhoid toxin manifests an affinity for the endothelial cells of the vascular system.

That a certain type of streptococci have a marked tendency for synovial surfaces and others, known as Fieheisen's streptococci, select the subcutaneous structures as their most favored point of growth.

All toxic substances act upon the individual cell. The character of the change in the cell depends upon the nature of the toxic agent and the resistance of the cell, and this probably depends upon the chemical makeup of the bacterial toxin and that of the protoplasm of the cell involved.

Simon, in a review of the streptococci toxin, came to the conclusion that, outside of the living body, these bacteria produce no soluble toxin, and only an exceedingly weak and uncertain intracellular toxin, yet other investigators have, by taking the extract of the media in which the streptococci have grown and injecting this into Guinea pigs, even in small doses, produced death; but by injecting very minute doses into animals they have raised their resistance to this extracellular toxic property until they were immune, not only for this toxin, but against the streptococci. There is certainly a wide difference of opinion of some of our best men concerning the streptococci and their toxic elements. Such men as Beginsky, D'Espein and Moser believe that scarlet fever is due to the streptococcus. Others believe that scarlet fever is produced by a symbiosis of the streptococcus and some yet unknown virus, and claim that the streptococci from scarlatinal anginus are not different from streptococci from other sources so far as cultural and morphological peculiarities are concerned. However, Hektoen has probably cleared this up for us, finding streptococci occasionally in mild cases, with greater frequency in more severe and protracted cases and that they may not be demonstrated in fatal cases.

We know from animal experimentation that the natural immunizing enzyme of the blood, alexines, have little or no bacteriolytic effect on the streptococci; that the colon bacilli and strep-

toecoci have been injected into the peritoneal cavity in large numbers, and in a few hours time the cavity opened and all of the colon bacilli have been destroyed by the alexines, while the streptococci are uninjured. However, if an examination of the white corpuseles be made, it will be found that each phagocyte is loaded with streptococci. This is a suggestion at least that the phagocytes are the main protective agents of the body against the streptococcus phyogenes.

Laboratory experiments go to show that an emulsion of dead white blood cells have a marked bacteriolytic effect on the streptococci and much more active does this emulsion become if the animal has been injected previously either with the extracellular toxin from the culture media or by an emulsion of dead streptococci. As the result from the use of streptococci anti-toxin clinically have been so unfavorable, would it not now be advisable to eliminate the so-called antibodies of the blood of an immunized animal and do some work with an emulsion of the white blood cells?

MacFadgan and Rowland by grinding streptococci frozen with liquid air extracted with salt solution a toxic substance 1-10 cc of which killed a guinea pig in 6 hours. This suggests that the fatal toxinic of streptococci is of intra-cellular origin—and that the extracellular poison does not produce morbid lesion and it is probable that the toxic property extracted from media on which the streptococcus has grown is a result of autolysis of the vegetable cell—this liberating the intro-cellular poison, which has a chemical sebative affinity for the leucocytes—and in small doses like any dilute poison first acts as an assistant. The fact that the streptococcus does not liberate a toxophorus group, make it impossible for the cells of the body to throw off side chains of protective receptors—but if the leucocytes are successful in destroying a sufficient number of streptococci—enough poison radicals will be liberated in the blood to stimulate a sufficient number of protective elements as anti-toxin to immunize, and protect an individual. I believe that if a study is made of the leucocytes before and after subjection to streptococcic toxins, from a chemical point of view, that it might be possible to demonstrate some change in the chemistry or molecular makeup of the cell, and ascertain chemically what the antidotal or antagonizing element is, generated by the white blood cell.

I believe that as the streptococci does not excite in the resi-

dent cell any protective element, but combining with the cell protoplasm, causes such a rearrangement of its chemistry that if it is not at once paralyzed and undergoes retrograde changes, that it gives off a secretion, the chemistry of which must be different from the original secretion, and is toxic—for we know that degenerated albuminoid products are most toxic. In conclusion let me say that having received so little encouragement from our streptococic antitoxin and what result is favorable is probably due to the leucocytosis generated by the horse serum alone that it might be well to turn our attention to agents that have to do with bringing up the white blood cell number, and then stimulate the white blood cell, say of the horse, to protection by injecting dead streptococci—and instead of trying to get an anti-toxin in the serum of the horse—extract the leucocytes by centrifugal means, and make an emulsion of the white cells, for in them we have only the protective agent against the streptococci. The same precaution probably would have to be observed—as in anti-toxin, to get several varieties of streptococci, or probably by culture media develop the streptococci to its typical long chain-form; all other varieties being probably lowered in the evolutionary stage from the sophrophyte to the obligate micro-parasite.

As man probably was primarily immune to all bacteria, has by imprudence made himself a fit host for pathogenic germs, so pathogenic germs were all primarily sophrophytic and as man has lowered his resistance, certain fluids of the body have assisted in developing sophrophytes into parasites.

It has lately been demonstrated that the great majority of individuals with cardiac, renal and vascular lesions, die not directly as a result of this lesion, but from an infection with pathogenic germs, and principally the streptococci.

When man is successfully infected with the streptococci, I believe it is too late to do otherwise than to raise his cellular resistance—and this is difficult; for a cell saturated with poison seems satisfied and refuses to combine chemically with ———— and then the hemolytic and cytolytic affect of the streptococci toxin interferes by destroying and intoxicating the oxygen carriers—our only hope, I believe, lies in getting an emulsion of white blood cells protected against streptococci toxin.

DISCUSSION.

DR. FARBACH: Dr. Allen's paper is certainly a scientific one. He has directed attention to the leucocytic action. Jackman in

his latest paper attacks the idea of the bacteriocidal properties of the leucocytes. In his experiments he found that the enzymes of the polymorphonuclear leucocytes did not have the power to destroy bacteria or to even cause a haemolysis of living cells, but that they did have the power of digesting dead bacteria. Of course this is an entirely new field and only further investigations will clear it up. I think general practitioners—and especially the old men, who have seen a great deal of scarlet fever and diphtheria—have learned that, whenever there is any doubt in their mind as to the throat condition, diphtheria antitoxin does a great deal of good, and, as Dr. Allen has said, it is the opinion of some men that the streptococcus is closely related to the diphtheria bacillus. As Dr. Allen says, but little benefit is derived from the anti-streptococcic serum.

DR. WM. A. JENKINS: We have three commonly known groups of plant micro-organisms which are capable of producing pathological changes and consequent diseased conditions in the human animal; namely, bacteria, yeasts and moulds. Perhaps the bacteria are most interesting to us. Of the three divisions of bacteria the *cocci* have seemed to prove more resistant to the ordinary methods of observation and cultivation, and less results have been obtained along the line of formation of antibodies than in any of the other special groups. Even the general practitioner, having his attention called to it by laboratory men, has, on numerous occasions determined that various cocci—oft-times streptococci—are found in the mouths of human beings in a more or less healthy condition, and it seems to be fairly well established that, in most instances, the streptococci require the presence of other micro-organisms before they become harmful in the human host.

Another feature that Dr. Allen has noted in his paper is the subject of lowered resistance. That would go to prove the point just spoken of and, in addition to that, any condition in which there is degeneration of the blood vessels or long continued disease of the bones or viscera will pull down the resistance capacity of the individual. We very often find this condition if the individual is an easy prey to streptococci of various sorts.

DR. A. D. WILMOTH: First I want to thank the essayist for his paper and then I wish to speak of one point mentioned by

Dr. Farbach; that is, the close relationship that possibly exists between the diphtheritic germs and the streptococci.

Recently I saw a case that possibly some of the rest of you may have had an opportunity to observe at the City Hospital. The patient was a young man whom I thought, from the appearance of his throat, had a case of diphtheria. I called in Dr. Hall, who rather doubted my diagnosis. The boy being in moderate circumstances and having no mother, was sent to the City Hospital, where he went under the care of Dr. Lederman who disagreed with me and said he thought it was a case of follicular tonsillitis. The patient went along for three or four days and became decidedly worse. Dr. Hall and Dr. Lederman were both in attendance on him. It was then decided that it was a case of diphtheria and the patient was given antitoxin—I think from ten to fifteen thousand units, which did no good. The boy went from bad to worse, his throat became edematous, and in twenty-four hours, during which time slight relief was obtained by inhalations of steam, he died. Post-mortem, I understand, showed a pure culture of streptococci. I received my information on this point through an interne at the City Hospital.

Now, here was a case that deceived two throat men who had the patient under observation and saw him three times a day. It simulated very closely a case of follicular tonsillitis and later diphtheria, and was very misleading.

I was in hopes that the essayist would be a little more explicit as to what pathologists believe may be obtained from the use of the various serums in streptococcic infections. A few years ago we were taught to believe that anti-streptococcic serum would practically destroy the streptococci in a mixed infection complicating tuberculosis. I have used it a number of times and thought I had obtained good results. I was in the hope that the essayist would speak more fully along that line, as to whether pathologists and laboratory men believe that the use of anti-streptococci serum is of service in combating the various strains of streptococci.

DR. ZIMMERMAN: There is nothing I can add to the essay but I wish to express my appreciation of the opportunity of hearing it and the pleasure of being with you gentlemen this evening. Dr. Allen has certainly handled the question in a masterful way. He has told us all we know about streptococci and has indicated that there is a great deal we do not know about it, and I think

that has been the experience of every one who has had anything to do with streptococcic infections. The few cases of streptococci infection that I have seen in the surgical ward have been almost uniformly fatal.

While we have a number of different strains of streptococci, yet the enormous mortality in those cases of known streptococci infection, as compared with the very moderate mortality in scarlet fever, leads me to believe that scarlet fever is probably not due to streptococcic infection. If it is, it must be an infection from one of the milder strains. We see scarlet fever every day and we see it getting well every day. We admit that this is a virulent infection, yet we do not see the mortality here that we have in other ordinary streptococci infections that we see in surgical practice.

The question of differential diagnosis of scarlet fever from diphtheria is a very interesting and puzzling one, one that baffles the best of diagnosticians at times. The throat condition in scarlet fever is sometimes so nearly like that seen in diphtheria, and the throat in diphtheria varies so extensively in different patients, that I think the mistake is a justifiable one.

The question of the nature of the vaccines and their action is one that is difficult to understand, because it involves those chemical processes which are so intimately associated with life—not only of the bacteria, but the life of the human being, and about which we unfortunately know so little at the present time.

DR. J. A. FLEXNER: I will take the opportunity to express my appreciation of Dr. Allen's paper. I think particularly the evolutionary and philosophical side of it is unusual in medical societies.

That the vaccine of streptococci is endotoxin of some sort is, I take it, the opinion of the great majority of men, but whether or not that has been absolutely proven is difficult to say. That there are many races of streptococci is also an undoubted fact. With reference to the opinion expressed by our guest (Dr. Zimmerman) as to judging the character of scarlet fever from the way in which it acts, we see all sorts of cases of scarlet fever. I have seen scarlet fever kill in thirty-six hours. In this connection I might mention that one workman, Guainiei, of Berlin, has, in the last two or three years, separated a protozoan parasite from the blood in scarlet fever cases which is receiving a great deal of attention in research laboratories. Preceding his

work, Mattingly, of Boston, has shown pictures of protozoa in the epidermis as well as in throat lesions in scarlet fever.

I do not think the diphtheria bacillus as we ordinarily see it in a clinical way is a race of the streptococci, but I do believe that many cases of scarlet fever—so many cases that it is almost impossible to differentiate—are mixed infections, scarlet fever and diphtheria. For a long time I followed the lead of the Willard-Parker Hospital in New York and gave a dose of antitoxin to every case of scarlet fever I saw, and I cannot help but believe that it may act in those cases in two ways; first, as a direct antidote to whatever diphtheria may be present, and, second, the effect of the serum in stimulating leucocytosis. In this connection I might call attention to one of the suggestions of the essayist; namely, the use of the leucocyte for its specific phagocytic property. This, as well as the use of the enzymes derived from the leucocytes, has been developed to a considerable extent by him, particularly with reference to tuberculosis. He has injected tubercle bacilli into the pleural cavity of a dog, and then injected emulsions of leucocytes and repeated these injections from time to time with the result of seeing his artificial tuberculosis disappear. The method is one that I think we are bound to take cognizance of and I hope we may soon be in position to use it.

DR. ALLEN (closing): I have nothing much to say except that I appreciate the discussion very much.

With reference to Dr. Wilmoth's remarks as to the probable result of using streptococcal antitoxin in tuberculosis, it merely brings up the leucocytic count, stimulates phagocytosis and assists nature in walling off.

As to lowered vitality, we know that the healthy epithelial cell is protective against the entrance of bacteria; that they are the only protection between bacteria and those cells of the body that are of mesoblastic origin; and that epithelial cells manifest no affinity for bacterial toxins. We must have a barrier allowing the germs to get in.

Then, too, I believe that if the heart is strong enough and sufficiently assisted by the vascular system, to keep the blood in circulation and prevent stagnation of blood that is far away from the heart and give it enough force to drive it through this point of irritation, keeping the bacteria in motion and not allowing stagnation of blood to take place, we will have much fewer local

manifestations of inflammatory conditions. The inflammation is probably going on all the time in the body along with phagocytosis and bacteriolytic forces in the way of alexines, and the only way we get stagnation of the blood is because of a weak heart or weak blood vessels.

I think it is generally accepted now that Hektoen has demonstrated in the protozoa the etiology of scarlet fever and that the streptococcus is merely an associated organism complicating the condition.

I believe, also, that it has since been demonstrated that the phagocyte manifests a bacteriolytic property and that this property is very much raised or increased in the animal that has been vaccinated with the streptococcic serum, or that even with an immunity dose of live streptococci, this enzyme in the white blood cell is stimulated and made more powerful chemically, and if we are going to use the white blood cell it is more effective if we prepare it by injecting dead streptococci, and probably this would do as much or more good in tubercular conditions complicated by streptococci infection. I believe vaccination in streptococci infection would do more good if used early to bring up the opsonic index of the blood. The vitality is so lowered and the heart is already working as hard as it can under the whip of the toxin, irritation, etc., and if we throw more work on it by the injection of dead streptococci we do harm by exhausting what little reserve nature might have.

SUCCESSFUL RESULT OF THE ADMINISTRATION OF AN UNUSUALLY LARGE AMOUNT OF ANTITETANIC SERUM.

BY J. A. KING, M. D.,
ATTENDING PHYSICIAN TO ST. JOHN'S HOSPITAL,
SPRINGFIELD, ILL.

M. Rossiter; age, 9 years. Male. Schoolboy.

History: Injured in the plantar surface of the left foot by a splinter July 29, 1908. Treated at home until August 8, 1908.

Present symptoms, subjective, pain in neck and head. Stiffness of muscles gradually increasing until jaws locked August 8th. Objective, a partially closed abrasion on the sole of the left

foot, jaws locked, patient in position of opisthotonos: temperature slightly elevated.

Diagnosis: Tetanus.

Treatment: The wound was opened and drainage made at midnight August 8th. Three thousand units Antitetanic Serum (P., D. & Co.) was given every three hours during the remainder of the night and during the day of August 9th, a total of 18,000 units. Three thousand units was given morning, noon and night, daily, from August 10th to 29th inclusive, a total of 198,000 units, with stimulants and hypodermic injections of phenol. The patient was discharged from the hospital August 29th.

Conclusion: The serum should be given in large doses and these repeated frequently. The above report indicates that no ill effects followed the enormous amounts of the Antitetanic Serum employed.

OUR FOUR FOREFATHERS IN MIDWIFERY.*

A HISTORICAL STUDY.

By WILLIAM STEPHENSON, M. D.,

Professor of Midwifery, University, Aberdeen.

THERE is interest and value in the endeavour to trace the growth and workings of the obstetric mind; using that phrase in a collective sense to imply the knowledge possessed at any one period; the principles deduced therefrom; the mental conceptions, true or false, thus formed; and how from time to time the attitude and conduct, in relation to pregnancy and parturition, have been determined.

The aim is to present, not a chronological narrative, but a critical review of portions of our obstetric history, the general features and outstanding facts of which are well known, and need but a reference.

With years, the course of ordinary labour does not change; the complications and dangers attendant upon parturition are the same now as of old; many of the problems our forefathers dealt with are problems of today; operative procedures, version, craniotomy, forceps, induction of labour, the Sigaultian operation, Cæsarean section, all are, more or less, venerable by age; but how different the mental light that plays around them now!

*The Presidential Address delivered at the opening of the session 1908-9 of the Obstetrical Society, Edinburgh.

Opinions are ever changing, principles are modified, mere sentiments and doubtful doctrines have less sway; the intellectual atmosphere is clearer; but sheer mechanical might and hurry are marring the work now.

To trace the influences that produce such changes is to get at the gist, or the Geist, of history; but there are limits in an address. During the time at our disposal, however, some of the pathways of progress may be followed.

Chief in their bearings on practice, inter-penetrating the whole subject, are the knowledge of the Mechanism of Labour, and the conception of the Uterine Action. Historically, that of the former preceded the latter; the lie and mode of passing of the head were known before the nature of the expelling force was understood.

Regarding the mechanism, considerable unanimity exists; yet, in text-books of today, archaic views and errors are to be found, transmitted, without thought, from author to author. This pathway, however, we cannot, for the present follow.

Concerning the parturient force, knowledge came with slow and stumbling footsteps. Yet a truer conception of uterine action was held towards the end of the 18th and in the early years of the 19th century than for fully sixty years thereafter. Certain views of the early writers were overlooked for a time, error crept in, the effects of which are still perceptible in present-day writings.

By accuracy in the conception of, and personal intimacy with the mechanism, the right hand acquires its cunning in the management of labour, and adroitness in the use of artificial aid. At the same time the left hand must be ever on guard over the uterus; on a true conception of its spontaneous action largely depends the safety of the mother in the prevention and speedy arrest of hæmorrhage.

In the 18th century began with midwifery the gradual transition from idle theory and arbitrary custom, to reasoning from real facts and accurate observation. By the middle of the century a solid and enduring foundation to the science and art was laid by the work of two men, contemporaries and friends, fellow Scotsmen, and natives of the same county. They possessed true scientific insight, and employed scientific methods, but each worked on different lines.

The contributions of WILLIAM SMELLIE (1697-1763) were eminently *practical*, based on close observation of nature *in action*; those of WILLIAM HUNTER (1718-1783) were purely *anatomical*, depicting the still life of the gravid uterus, in engraved plates, marvellous in accuracy and beauty of delineation. His scientific work was excellent, its influence has been great and lasting; it drove from the obstetric mind many a fanciful and grotesque notion regarding intra-uterine life, and provided a true knowledge of the various structures involved in pregnancy and labour.

In practical matters, however, he was timid and not initiative; his mind was deeply imbued with the doctrine, then and for long after prevailing, of implicit faith in Nature's forces to overcome obstacles. He held, with others of his time, that long forbearance should be exercised, and that interference was justified only by the actual approach of dangerous constitutional disturbance.

Against universal opinion he had the courage to put to the test this doctrine of non-interference in the third stage of labour. The trial promised well at first, but, ere long, sad experience taught him that the expulsion of the placenta could not, with safety, be left indefinitely to the unaided forces of Nature. The profession is indebted to him for this experiment, so carefully carried out; it was strictly logical, and so decisive that it has never been repeated. It was long, however, before the obstetric mind realised that the doctrine was likewise fallacious regarding labour generally.

The use of the forceps he looked upon with grave doubts. "I admit," he said, "that the forceps may sometimes be of service. . . I have sometimes used them with advantage. . . yet I am clearly of the opinion, from all the information which I have been able to procure, that the forceps (midwifery instruments in general, I fear) upon the whole has done more harm than good."

SMELLIE, by his sagacity and keen observation, made manifest to the ken, if not the understanding of men, the relations between the foetal head and the pelvis. His account of the mechanism of labour is not written with the verbal precision afterwards gradually attained; but that he truly grasped the subject is clear—the picture he presents is drawn in simple comprehensive lines, true to nature, and without the over-elaboration and inaccuracies of later writers. He was the first to recognize the various positions

in which the head may lie, and the movements imparted to it in its passage through the pelvis. He demonstrated the necessity of occipital rotation, and the relative facility or the difficulties dependent upon the particular lie of the head. He discovered also that in such difficulties the rotation could be aided by the fingers or the forceps. This instrument, it is well known, he greatly improved, and advocated its use in the high as well as the low operations.

Whilst these pregnant additions to knowledge were being made, adverse influences were at work to hinder their acceptance. The turmoil with the midwives was at its height; the jealousy or prejudice, and the acrimonious disposition of his less-learned rivals vainly tried to belittle their value; the ignorance of the general practitioner was immense; a generation and more had to pass before the value of his teaching was duly appreciated.

At this period, taking the views of Smellie as representative, ideas regarding the uterus were in a vague and fogged condition. It is difficult for us, with present-day knowledge, to realise the dim light in which men then worked. The pain and straining at expulsion was evident enough; and the simple phrase "labour pains" was sufficiently descriptive, without theorising. The thickness of the walls and the size of the uterus, relative to the period of gestation, were noted; but the composition of the walls was wrongly interpreted. At that time injection of the blood-vessels and lymphatics was the only known means of investigation, and this led the mind astray.

Smellie thus describes the structure: "The thick substance of the uterus is composed of a plexus of arteries, lymphatics, veins, and nerves, . . . without any muscular fibres, except such as compose the coats of the vessels." And in the next paragraph he remarks: "The substance of the uterus appears more compact and pale than that of muscles; or, if it be muscular, at least the fibres are more close, and more intricately disposed, than in other muscular parts."

Hunter, by his keener scientific discernment, had no difficulty in pronouncing the uterus to be strongly muscular, and depicted what he believed to be the arrangement of the fibres. Nevertheless, Smellie's idea continued to sway the obstetric mind for fully a generation.

At this time another befogging notion was generally accepted. Parturient action was believed to be due to "stretching of the

fundus in proportion to the augmentation of its contents," the cervix also, from the third month, participating in the stretching till in the ninth month the neck of the womb is altogether distended."

Smellie's description of a labour pain is, for one so observant, amazingly inaccurate.*

"Now that the whole substance of the uterus is stretched, the neck and os internum, which were at first the strongest, become the weakest part of the womb, and the stretching force being still continued by the increase of the fœtus and secundines, which are extended by the enclosed waters in a globular form, the os uteri begins gradually to give way. In the beginning of its dilatation, the nervous fibres in this place, being more sensible than any other part of the uterus, are irritated, and yield an uneasy sensation, to alleviate which, the woman squeezes her uterus by contracting her abdominal muscles, and at the same time filling the lungs with air, by which the diaphragm is kept down: the pain being rather increased than abated by this straining, is communicated to all the neighbouring parts, and by this compression of the uterus the waters and membranes are squeezed against the os uteri, which is of consequence a little more opened" (p. 112).

On another page he says: "At every pain the uterus is strongly compressed by the same effort which expels the contents of the rectum at stool" (p. 207).

Thus, throughout the whole process, he attributes no expulsive action to the uterus itself; and yet, in various parts of his treatise, he makes use of the expression, "*the uterus contracts*." The following examples explain his meaning:—"By the help of strong pains the child will be forced along, *as the child advances the uterus contracts*" (p. 223).

The mouth of the womb being sufficiently opened, the membranes are forced into the middle of the vagina, *then the uterus contracts* and comes into contact with the body of the child" (p. 209). "As the waters are discharged, *the uterus contracts itself and grows thicker*" (p. 101).

The action he thus indicates is not one of expulsion, but the shrinking in the capacity of the uterus in proportion to the

*For convenience of reference, the edition of Smellie's *Midwifery* made use of is that edited by Dr. M'Clintock, published by the New Sydenham Society, 1876.

lessening in the bulk of the contents. Here, be it noted, is the germ, thus early recognised, of what with scientific accuracy is now termed *retraction*.

The celebrated DR. THOMAS DENMAN (1733-1815) writing in 1782—thirty years after the publication of Smellie's work—retains some of the old ideas, but makes an important advance by recognising the “expulsatory” action of the uterus. The structure of the organ he describes in the same terms as Smellie, but along with vessels, lymphatics and nerves he includes muscular fibres, adding, however, that when distended by pregnancy they are “*very thinly scattered*.” Further, he stumbingly remarks: “It does not seem reasonable to attribute the extraordinary action of the uterus at the time of labour to its muscular fibres only, if we are to judge of the power of a muscle by the number of fibres of which it is composed.” Nevertheless, he correctly divines the situation. Already the uterus was known to retract as the contents diminish; now he recognises that expulsion also is due to uterine action. The following passage, displaying much foresight, is notable:—

“At the time of labour a new principle supersedes those of distention and ascent. This gives a disposition to the uterus to exclude whatever it contained in its cavity, and the effect produced is in proportion to the energy of the principle and the power of the uterus. A perfect intelligence of this principle and of the mode of its operation would be of infinite use in practice, as we might be enabled to suppress the action thereby occasioned when premature, moderate it when too violent, strengthen it when too feeble, and regulate it in a variety of ways conducive to the welfare of our patients. On the knowledge we at present have of the manner in which this principle operates, and the circumstances by which it is influenced, the assistance which science and dexterity can give in cases of difficult parturition very much depend”* (p. 189).

Further, Denman clearly differentiates the two actions of the uterus, and when discussing questions refers to them under different terms, showing that he regarded them as distinct. The one, expulsive, he calls “*The action of the uterus*,” and uses the phrase as synonymous with “labour pains;” when speaking of

**Introduction to the Practice of Midwifery* Part the First. By Thomas Denman, M. D., Physician-Man-Midwife to the Middlesex Hospital, and Teacher of Midwifery in London. London, 1782.

the other, the permanent contraction, he, like Smellie, says "*the uterus contracts.*" "This," he remarks, "may, in fact, be considered as the exercise of that inherent disposition in the uterus by which its efforts are made to recover its primitive size and situation."*

From this period the powerful muscular nature of the uterus and its functions were no longer doubted. In 1784 Professor Hamilton, Senior, of Edinburgh, speaks of "the uterus itself as a hollow muscle."

In the early years of last century Dr. John Burns, who was then Professor of Midwifery in Glasgow, not only upheld the two-fold action, but also directed attention to the practical bearing of this view. Discussing the subject of hæmorrhage before or during labour, and referring to the temporary and permanent actions, he remarks:—

"It is chiefly to the permanent or *tonic* contraction that we are indebted for the stoppage of hæmorrhage, because this contraction lessens the size of the vessels and keeps up a firm pressure of the uterine surface upon the ovum until the pains have accomplished the expulsion or delivery of the child. The pains could not do this good, for coming only at intervals their effect would be fugacious. On the other hand, the permanent contraction would not be adequate to the purpose without the pains, for these temporary paroxysms excite this action to a stronger degree, and by ultimately forcing down the child accomplish delivery before the powers of the uterus be worn out."

Thus, in these early days, the expulsive and the retractive forces were held distinct from one another, and the management of labour was based thereon. Unfortunately, from the ambiguity of words and the indiscriminate use of the same word in more than one sense, confusion arose; retraction came to be regarded as the product of repeated contraction, and that practically retraction could be obtained only by exciting contraction.

The earliest statement I have found of this myopic view is in *Practical Observations in Midwifery*, by Dr. Ramsbotham, Senior of London, written in 1821. Referring to the subject, he says: "*The permanent state is the result of the repeated returns of the temporary.*" From this time down to 1886, a period of sixty-five years, when Dr. Matthews Duncan read his classical paper

**Instruction to the Practice of Midwifery* By Thomas Denman, M. D. Vol. ii (1795), p. 282.

on the subject,** muscular contraction alone dominated the mind, retraction became degraded and unheeded. In the discussion that followed the reading of the paper it was affirmed by successive speakers that retraction is but the retention of ground gained by contraction; that without contraction there could be no retraction; and that after the uterus is emptied re-expansion does not occur, because there is no expanding force.

To discuss so important a question is beyond the purview of this address; but to keep the historical balance, the view revived by Duncan, and as now more clearly defined in the mind's eye, may be stated briefly, all the more because, even in the present day, its character and its bearing on practice have not been generally realised.

Contraction and retraction are distinct properties of the uterus. Contraction, the discharge of muscle-energy under a stimulus, is intermittent, and supplies the only uterine expulsive force. Retraction is not expulsive; it is a persistent action dependent upon the tonicity of the walls, and varies in degree. By virtue of this inherent property of the muscular sac the cavity is lessened in proportion to the diminution of its contents. Whether such diminution be effected by the natural force of expulsion or, in the absence of contractions, by artificial means, all the same in either case retraction occurs. The movement is a gradual shrinking and requires time. It restrains the circulation, and if from any cause it be defective there is in the blood-pressure sufficient force to re-expand the uterus to a dangerous degree, thus favoring hæmorrhage.

Such is the mental conception which ought to quicken and direct the management of labour. To understand its influence we turn again to the teaching of the earlier writers, who had recognised not only the distinctive effect of the two forces, but also the cognate truth that retraction is slow and must be given time. They acted accordingly.

Professor Hamilton, speaking of the *extraction* of the child after version, says: "The operation of delivery should be slowly performed."

Professor Burns remarks: "The placenta will be less apt to be retained if the expulsion of the child be conducted slowly, and the uterus made to contract fully upon it." And again he says: "Delivery therefore is not to be hurried; the steps of expulsion

**Trans. Obstet. Society, London, vol. xxviii. (1886) p. 115.

should be gradual. Instead of pulling out the body of the child whenever the head is born, we should rather retard the expulsion when it is likely to take place rapidly."

In the present day of haste these principles are liable to be overlooked or purposely disregarded. And, further, they are at times misinterpreted, as in the following injunction by a recent authority. "The principle," he says, "not to deliver *in the absence of uterine contractions*, is the first point in the prevention of postpartum hemorrhage." The older writers had a truer grip of the subject; it was not for pains they waited, but to allow time for the slow process of retraction; and experience has abundantly proved that delivery can be effected with safety "in the absence of uterine contractions," but, as they directed, the extraction must be gradual and deliberate; or, as Denman puts it, "*not proceeding rashly or affecting dexterity, but giving our heads time to guide our hands.*"

Shrewd and observant as our forefathers were, it was long ere they perceived or put in practice the stimulating and restraining influence which the hand, externally, can exert over the uterus. Smellie nowhere refers to it; in his time ignorance of uterine action, and, it may be, a feeling of delicacy, withheld them from placing the hand above the pubes. When, however, knowledge regarding uterine action increased, the use, but not the full value, of external pressure was perceived. Denman, in 1782, wrote, "To promote the separation and exclusion of the placenta, the application of the half-closed hand to the abdomen, so as to make a moderate pressure, is sometimes of use, by aiding the uterus in its contraction." One year later, Mr. Dease, of Dublin, recommended the same expedient in very similar terms: "Should the detachment of the placenta," he says, "not be effected in the usual time, it will be much facilitated by the operator's judiciously applying his hand to the region of the uterus, which he may excite to the necessary contraction by gentle friction." "This method," adds Dr. M'Clintock, "may justly be called the '*Dublin Method.*'" If this be all, then unfortunately Denman had anticipated it by a year.

In the recommendations of these writers there is but the germ of what, in course of years, has developed into a safe and efficient method; to which, however, no individual or school can strictly lay claim as having originated or perfected. It has developed gradually and taken definite form as the obstetric vision

cleared. Crede's good service lay in so convincing the profession of the superiority and safety of the method he advocated that men turned from their evil ways. There was at first, however, a savor of error in what he taught.

Any method may be conducted in *apparently* the same manner, but with different objects in view, and with varying results. It is the mind that works the method, not the hands. From time immemorial delivery of the placenta has been the sole thought in the third stage. At first Crede made an early expulsion his aim, but in the course of time this was modified. Nevertheless, stimulating the uterus to explosive action, and further aiding by direct pressure, is the dominant, and often the sole, object in the mind of many.

But the *root idea* from which the management springs is not the ready expulsion of the placenta, though that comes with it, but the prevention of an undue loss of blood, by giving support to the uterus, so long as retraction is incomplete. Hence the great, the nuclear thought is continuous, not casual, supervision by the alert grasp of the hand over the fundus, from the birth of the child onwards, and so limit the degree of expansion; for *before* extrusion of the placenta there may be an unnecessary, sometimes serious, amount of internal bleeding; and *after* expulsion there may be too free and alarming loss of blood; the supervision, therefore, must be kept up until the empty uterus is firmly set.

Kindred with the above there is in the teaching of the older writers a telling point that somehow has slipped from notice. It is unknown to many, and mentioned by few. When the placenta has been retained beyond a reasonable time, and external stimulus has proved futile, it is necessary to introduce the hand to remove the cause of retention. All concur in this proposition: but what is the *primary object*? Listen to Denman's teaching: "Whether on the introduction of the hand we found the placenta separated, or whether it was necessary to separate it, *we are not to extract it immediately, but to wait till the uterus begins to contract*, and then to withdraw the hand, including the placenta, more quickly or slowly according to the degree of contraction."

Burns also strongly inculcates this principle: "Our primary object," he says, "is not to extract the placenta, but to excite the uterus to brisker action;" and he further adds an important point: "Until the fibres contract neither the hand nor the pla-

centa should be withdrawn. But the moment we find the uterus beginning to contract, the placenta is to be removed, even if the hand should require to be reintroduced, *as emptying the uterus under these circumstances promotes further contraction.*"

Neither of these writers, in their emphatic recommendation of this treatment, makes mention of the simultaneous use of the external and internal hand. The beneficial effect of pressure and friction over the uterus is referred to under other circumstances, but the combined method here is not mentioned. Thus gradually does method advance point on point towards perfection.

The recommendation, above mentioned, to empty the uterus to promote retraction, is in strict accordance with the law "in proportion to the bulk of contents," and applies equally to undue distention from blood as to retained placenta. The hand, however, need not be withdrawn further than the os uteri, sufficient merely to slip the placenta or blood clot past the wrist into the vagina. Repeated withdrawals and reintroductions should be avoided. Denman wisely remarks: "The hand when introduced should never be (wholly) withdrawn till the end for which it was introduced is, if possible, accomplished."

Most cases of too free bleeding, if no constitutional effects are showing, can be controlled by the strenuous action of the external hand, together with, if need be, swabbing the vulva with very hot water.

But *active hemorrhage* brooks no delay; evil effects therefrom gather rapidly; prompt action by the most reliable means is peremptorily demanded. The surest and readiest expedient is, what the early writers taught, the introduction of the hand in uterum. From this simple and direct course the mind has sadly wandered. From fear of a possible risk men dally with an imminent danger; what should at once be done is regarded as a last resort.

With contraction, and contraction alone in view, the main thought too long has been to stimulate the uterus to contract by hot douching and less reliable means, each of which occupies time in preparation and administration. A fatigued uterus is ever slow in response, and further, contractions when obtained, are often delusive; the hemorrhage is stayed for a time, but relaxation follows, and, with it, the risk of bleeding.

Moreover, expulsive action need not be waited for, it is not

neded: the hand introduced can speedily empty the uterus if necessary. Retraction is the primary, nuclear thought, and can be secured by use of the combined hands, steadily moulding the uterus between them like a plastic shrinking mass, till it be firmly set. Peradventure, this proving ineffectual, which I have never yet experienced, the nozzle of the douche can be passed up to the hand in utero, and hot water injected.

In perusing recent discussions on the treatment of post-partum hæmorrhage, one cannot but feel there is madness in the method advocated. Can anyone, not bereft of the reasoning faculty, believe that bearing the whole weight of their body on the abdominal aorta will make any material impression on uterine circulation so long as the ovarian arterics are left free? Compression of the aorta I have found of signal benefit, not in checking hæmorrhage, but in warding off and relieving faintness and collapse.

In this ramble through old books, a point has been reached where a halt may be called. In the middle of the eighteenth century, we have seen the science and art of midwifery emerging from the murky atmosphere and false imaginings of ignorance. We have traced the varying phases through which the conception of the uterus and its action has passed: and have indicated, more than discussed, the bearing of the older teaching on modern thought and methods.

The group of writers to whose works I have referred, and from which I have freely quoted—Smellie, Hunter, Denman, and Burns—must be regarded as strictly the four forefathers of British midwifery. Their eminence and the classical character of their works, rest on the true scientific and practical spirit that pervades their writings, on the soundness of the principles they inculcate, and on an absence of the false reasoning, the timidity, and grandmotherly advice, that mar the writings of many of their successors.

The first three names are familiar and well remembered; that of the last, Prof. John Burns, of Glasgow, I fear, is almost forgotten. And yet his work on *The Principles of Midwifery* went through seven editions, and will be found stimulating and instructing to the practitioner even of today. He follows closely the teaching of Denman, and develops the important subject of fatigue of the uterus and its management: that, however, opens up another pathway in the history of obstetrics, which must wait for another occasion.—(*Edinburgh Medical Journal.*)

PROCEEDINGS OF THE LOUISVILLE CLINICAL
SOCIETY, MARCH 30, 1909.

DR. RAVITCH: I have a case to present which may be of some interest to the members of the society.

This girl was sent to me by Dr. Zimmerman about a month ago with this history. About three months previous to that time she had come to see Dr. Zimmerman with very sore fauces and a papillary eruption all over her body, varying in size from a pea to a hazel nut. The tonsils were very much swollen and pachytons on both sides of the throat. The girl gave a history of tuberculosis or symptoms within the last two years. About two years ago she was operated on by Dr. Abell for tubercular ovaries, both ovaries having been removed. She also gives a family history of tuberculosis. Her father died of it; also a sister and a brother. When Dr. Zimmerman saw her he suspected it was a case of syphilis and put her on mercurial ointment externally and protoxide internally until he salivated her, but without any improvement. When the girl came to me I could not immediately make diagnosis, but upon investigation I saw that the disease was erythema nodosum, as described by Bazin, who claims that all these cases are found in tubercular patients. Therefore, I did not give her any mercury but put her on citrate of soda, internally, in ten grain doses. After a week of this treatment the improvement was quite apparent and she is now doing very well.

There is no question that this girl is tubercular, although she does not have any temperature. This is as far as I can present the case just now. After I have had the patient under observation for another two or three months I will present it again. I showed the case because of the fact that some of these cases very much resemble syphilis because of the throat symptoms, eruption and so on.

DR. WM. CHEATHAM: I would say that the trouble in the patient Dr. Ravitch has presented is specific. Of course, I bow to his knowledge in such cases as this, but the throat trouble certainly appears to be specific. It may be a mixed infection: I do not see why she should not have both. In regard to the condition on the right side of the nose, I have seen the same condition result from the administration of the iodides. If I was

treating the case I would certainly give her the benefit of the doubt and put her on anti-specific treatment.

Dr. J. A. Flexner: Like most of the other gentlemen present, I would probably have said off-hand that this was a macula papular syphilis and, with all due reference to Dr. Ravitch, I still believe it. I would like to ask Dr. Ravitch how long it has been since she has had any mercury?

Dr. Ravitch: She has not had any for about six weeks.

Dr. Flexner: If you will send her to me I will secure a specimen of her blood and will have the Noguchi syphilis test made. I think there is a great deal in what Dr. Cheatham says; that, in all probability, this is a mixed infection. I should unhesitatingly call the scaly papulae syphilitic.

Dr. Ravitch (closing): The fact that the girl has such a clear tubercular history, her father, a brother and a sister having died of tuberculosis, and she herself having been operated on for tubercular ovaries, led me to believe that her present trouble was of this nature. This eruption had existed for four months when Dr. Zimmerman put her on mercury. He used mercurial innunction and, instead of the eruption disappearing, it rather multiplied. The eruption could not be due to the administration of the iodides as she did not have any. At any rate, if it were an iodide eruption she would have it all over her body and this was not the case. During the first two weeks I injected mercury four times a week and it had no effect whatever. Then I put her on sodium citrate as suggested by Bazin. He claims that all these eruptions are erythematous eruptions, and if persistent and indurated, they are of tubercular origin. I am going to keep her off of the mercury for a month or six weeks longer and see how she does.

Recent Progress in Medical Science.

EYE, EAR, NOSE AND THROAT.

IN CHARGE OF

SAMUEL BROWN HAYS, M. D.

TRAUMATIC CATARACT IN CHILDREN.

In the Louisville Journal Medicines and Surgery, February, 1909. Adolph O. Pfingst reports five cases of traumatic cataract

occurring in children treated by needling the lens. After a brief anatomical review of the lens and its capsule, the author points out the changes which take place in the lens whenever the aqueous humor infiltrates the lens substance. While penetrating wounds are most frequently the cause of traumatic cataract, the lens often becomes opaque after blows upon the eye, without an apparent rent in the capsule. Cases are also on record where the opacity took place through the posterior capsule from the vitreous.

The author believes that in cataracts without an apparent capsule tear, which after several months show no sign of absorption, the absorption process should be started by incising the anterior capsule with a knife needle. The needling is repeated in 4 to 6 months whenever the absorption process has apparently come to a stop and provided the pupil is still obstructed. Finally the lens capsule is split to bring about a clear black pupil. In most cases in which the absorption was started by the penetrating wound two operations sufficed and in the case where the process had to be started by a needling, three operations became necessary to bring about a clear pupil.

The most frequent complication met with in the treatment of these cases is iritis. Secondary glaucoma occurs in a certain number of cases and exceptionally cyclitis has been reported.

The usefulness of an eye successfully operated upon is limited, assisting the patient principally by increasing the range of vision on the side of the aphakic eye. The use of a correcting lens on the aphakic eye, is not advised, provided the other eye is perfect or nearly so.

Attention is also called to the disadvantage of leaving cataractous lenses entirely to nature, as thickening of the capsule, frequently with adhesions to the iris and at times cyclitis with closure of the pupil results.

SIGNIFICANCE OF THE CONJUNCTIVAL TEST IN TUBERCULOSIS.—Waltf-Eisner (Munch. med. Wochenschr., 1908, No. 45.—The originator of the conjunctival method, in this article sums up, the result of his experience in 4,000 cases. He believes that while the old subcutaneous method and the newer cutaneous one of v. Pirquet are specific for tuberculosis, their very delicacy interferes with their clinical value in adults, inasmuch as they are positive in latent or even completely healed tuberculosis. The

conjunctival method on the other hand, if positive, indicates an actual tuberculosis. If a positive reaction is obtained in a clinically healthy individual, the suspicion of a tuberculous process is justified. A negative reaction, on the other hand, does not necessarily indicate the absence of a tuberculous process unless the patient is clearly not very ill. The more advanced the case, the more usually the conjunctival reactions will be missing. Absence of the conjunctival reaction in the presence of a definite tuberculous process justifies a bad prognosis.

A TUBE FOR VAPOR INSUFFLATION OF THE MIDDLE EAR.—Percy R. Wood, of Marshalltown, Iowa, describes a tube devised by him for the treatment of chronic middle ear catarrh with its annoying tinnitus and progressive sclerosis. It is curved, with an end shaped to place in one nasal orifice, and the other to contain the medication it is desired to use. A sudden expiration when the tube is in place drives the vapor into the middle ear and adjoining cavities.—*Medical Record*.

HARD TONSILS preponderating in connective tissue, are better removed by the cold snare than by a sharp instrument. The snare closes the blood nerves; the tonsillitome opens them.—*American Journal of Surgery*.

MASTOIDITIS.—Whenever tenderness over the antrum persists more than three days after opening the membrane operation should be insisted upon. Sudden diminution in the discharge from the ear with continuance of other symptoms also calls for immediate opening of the mastoid cells, antrum and middle ear from behind. Quantities of pus too great to be produced in such small space as the tympanum is likewise indicative of such involvement of the mastoid cells as to require opening them freely.

BOSTON MEDICAL AND SURGICAL JOURNAL JUNE 3, 1909.

2. THE AETIOLOGY AND DIAGNOSIS OF IRITIS.—Thompson states that the distinctive diagnosis between iritis and other affections of the eye that in any way resemble or might be mistaken for it is very important, since the treatment appropriate to one may be of no avail in the other, and, in some cases, glau-

coma in particular, great damage to the eye and its usefulness for vision will result from using the wrong treatment by reason of a mistaken diagnosis. Acute glaucoma, acute conjunctivitis and keratitis are the diseases most commonly mistaken for acute iritis, and vice versa. Injection is red in color in all four diseases, but in conjunctivitis it is less marked near the cornea, while in iritis it is more noticeable surrounding the cornea, forming a bright zone of ciliary redness; in keratitis it is also most conspicuous near the cornea, but is more on the rose pink shade, and in glaucoma the injection is apt to be a dark shade of red. The conjunctiva is more or less thickened in conjunctivitis, it can be readily thrown into folds, and on everting the lid the vessels are seen to be partially or entirely obscured by the general redness; whereas in the other affections, as a rule, these conditions are not particularly noticeable. Secretion of mucus is marked in conjunctivitis, appearing as flakes which mix with the tears and accumulate on the cilia and margin of the lids, often causing the latter to stick together after closure during sleep; in iritis the secretions consists chiefly of tears; in keratitis and glaucoma there is no hypersecretion of mucus, but there is often profuse lachrymation, especially in the former. The cornea is clear in uncomplicated conjunctivitis; in iritis it is usually clear, except in a few varieties, in which cases the opaque spots are nearly always on the posterior surface of the cornea; in keratitis there is more or less cloudiness or opacity which may involve its superficial layers or nearly all of its substance, obscuring the view of the iris and pupil; in glaucoma the cornea becomes slightly hazy generally, and as the disease grows more severe it acquires a steamy look and it may even approach the appearance of ground glass. Anaesthesia of the cornea is more or less pronounced in glaucoma, while in keratitis it may be hypersensitive, except the neuropathic type, in which anaesthesia is a characteristic feature, but in iritis and conjunctivitis sensation is normal. Iris is discolored, thickened, puckered, and dull looking in iritis, but in the other affections it is normal, except in glaucoma, when it may be slightly discolored. The pupil is small, sluggish in reaction or fixed, and irregular in shape in iritis; in glaucoma it is dilated, sluggish and may be greenish in color; whereas in the other two diseases it is not affected. Vision is slowly impaired in iritis; but in glaucoma there is rapid and marked loss early in the attack; in keratitis it is more

or less blurred, depending on the amount of haziness or opacity of the cornea; in conjunctivitis it is very slightly interfered with on account of mucus and tears flowing over the cornea. Pain is severe and similar in character in both glaucoma and iritis, but in the former it is not apt to be worse at night; in keratitis it is not so marked, but is more constant; in conjunctivitis it is more of a smarting or burning sensation, as if there were sand in the eye, than actual pain.—*Boston Medical and Surgical Journal*, June 3, 1909.

THE ACCOMMODATION AND DONDERS' CURVE.

A. Duane, New York City, (*Journal A. M. A.*, June 19). while admitting the exceedingly valuable nature of Donders' work on the range of accommodation at different ages, says for that very reason we should avoid overvaluing them. Hence the necessity of extending and checking Donders' investigations as fully as possible. It must be remembered that the number of cases utilized by him was small and the individual variations considerable, and that his observations were based on the assumption that his subjects were actually emmetropic, which must be regarded as erroneous for at least some of them. Clinical experience has also shown that in some respects the course of presbyopia runs otherwise than as Donders taught. The plan adopted by Duane and his collaborator, Dr. J. B. Thomas, for this purpose is to render each patient emmetropic by applying the full correction to his refractive error and then to determine his near point with Prince's rule. This gives the corresponding amount of accommodation in dioptries, which, as the patient's far point has been placed at infinity by his glass, evidently represents his full accommodative power. The methods and precautions that must be used are enumerated: he must be made really emmetropic, his vision must be such that he can make the fine distinctions required, he must understand fully what is wanted and must be physically fit, not neurasthenic, temporarily exhausted, etc., the test object must be satisfactory and the illumination suitable. Care must be taken also that the point from which the measurement is taken is defined and that the measurement be taken from it accurately each time. It is necessary, especially in young subjects, to make repeated tests in the same case in order to ascertain the accommodative power. Duane and Thomas prefer to take their measurements from the anterior focus of

the eye, i. e., 13 mm. in front of the cornea, because this is the point at which we place the convex glass that they use to measure the accommodative power with and to the latter when absent. The values found in the range are plotted: before the age of 20 the curve falls below that of Donders. Owing, however, to the small number of cases here and to the difficulty of getting accurate results when the accommodation is high and the patient is young, the results must be regarded as uncertain. Yet Duane thinks that their error is not over one diopter, and that Donders' figures for the early ages (10 to 15) are distinctly too high. From 20 to 45 Duane's curve rises above that of Donders, and from 45 on, it falls below this. Both according to Donders and Duane, the accommodation remains nearly constant after the age of fifty-one, diminishing not more than 0.50 D. ten years. Duane finds a somewhat lower range than Donders for this time of life. A table of what may be considered the normal range of accommodation at the different ages between 10 and 60 is given, and anything persistently above or below it may be regarded as abnormal, provided the proper conditions have been fulfilled in the examination. No single examination, however, can be taken as justifying a conclusion that the accommodation is abnormal. Duane and Thomas believe their results more reliable than those of Donders because they were obtained from three times as many subjects in whom the refraction had been carefully determined and who had been rendered absolutely emmetropic by glasses, while it is probable that many of Donders' cases especially between the ages of 20 and 45, had an uncorrected latent hyperopia, which would make his estimate of the accommodation too low by one or two diopters. They also think that the test object used by them in determining the near point (the fine hairline and rule) was better for accurate results than the type and wire optometer used by Donders. The still somewhat current idea that the accommodation in advanced age becomes zero accords with neither theirs nor Donders' findings. A true range of one diopter or over exists up to the age of sixty. Myopes have as good a range of accommodation as emmetropes.

CLINICAL AND AUTOMICAL MANIFESTATIONS OF OTITIC BRAIN ABSCESS.

Alfred Wiener of New York says that in treating otitic brain abscess we should especially consider the location, the duration,

and the intimate connection existing with a suppurating process in the middle-ear cavity. In fifty-seven per cent of brain abscesses of otitic origin the suppuration in the middle ear communicates directly with the abscess. In some cases the ear condition is active, but is separated from the abscess by normal brain tissue. In other cases the ear suppuration has ceased, but there is every reason to believe that it was the point of origin of the brain abscess. It may be close to the ear or at a distance from it. Such abscesses follow both acute and chronic ear suppurations, but are much more common in the chronic variety. They are rare in early childhood. The location is in the majority of cases in the temporo-sphenoidal lobe when the process has broken through the tympanic roof. When the posterior wall of the petrous portion of the temporal bone is at fault it is in the cerebellum, pons, or crura cerebri. Cerebellar abscesses are generally in the anterior portion of the lateral lobe. Extradural abscesses are also found. Brain abscesses are generally solitary and about the size of a walnut. They contain pus and disorganized brain substance. In virulent infections the germs are carried into the brain substance by thrombi. In sixty-five per cent of cases the abscess is encapsulated. One of the constant symptoms is headache. The temperature may not be elevated; the pulse is slow; vomiting on an empty stomach is characteristic of brain abscess; vertigo, constipation, slow cerebration, and infrequent fundus changes are seen.—*Medical Record*, January 23, 1909.

WHY MASTOIDITIS IS SOMETIMES MISUNDERSTOOD.

Emil Amberg, of Detroit, Mich., refers to two sorts of errors in the treatment of mastoiditis, that of the man who waits too long before seeking operation, and that of the man who rushes into operation before he has waited to see whether it is absolutely necessary. At the present time we cannot reach an absolute decision as to the necessity of surgical interference in some cases. In most cases the group of symptoms, and in some cases one or two marked symptoms, point to operation as necessary. The dangers of general anesthesia are to be considered, especially in persons who have tuberculosis. Local anesthesia should be more thoroughly tested in mastoid cases. The temporal bone contains several groups of cells which may come into consideration in an affection of the mastoid process. The construction of the bone is such that a suppurative process can extend into the

depths of the bone without showing any external symptom. Marked symptoms may appear suddenly and may cause death rapidly. —*Medical Record*, April 17, 1909.

THE OCULAR TUBERCULIN REACTION.

A. Wolff-Eisner, Berlin, Germany (*Journal A. M. A.*, February 20), claims for the ocular tuberculin reaction that, in contra-distinction to the other tuberculin reactions, it is the one which indicates an active tuberculosis. It has therefore a greater diagnostic value. It produces, moreover, a typical tuberculin reaction far from the seat of the existing disease and thus avoids lighting up a fresh process at the seat of the original lesion. It is therefore, contraindicated if there is even a suspicion of previous or existing tuberculous lesions in the eye, and it has no value in an eye that has already reacted. He recommends the use of the Ruete-Enoch tuberculin in 1 to 2 per cent. solution, which he has found safe and efficient. Stronger solutions would give more positive reactions, but he considers them useless, and a negative result with the solutions he advises gives important prognostic evidence which is not given by other concentrations. The prognostic indications from the reaction have, in Wolff-Eisner's opinion, quite as much importance as the diagnostic ones. In the case of a continued reaction (*Dauerreaction*), which indicates, in his opinion, a favorable course, there is, he believes, a connective tissue formation incited at the point of reaction by the tuberculous poison. It is only necessary to suppose that the seat of the disease reacts or has reacted in the same way, and the matter is easily understood. Wolff-Eisner explains his views, as regards immunity and the theory of tuberculin treatment, and sums up as follows: "1. The subcutaneous and the cutaneous methods are specific reactions for tuberculosis. As they both demonstrate latent tuberculosis, their use is extremely limited for clinical diagnosis. 2. The positive conjunctival reaction shows active tuberculosis. 3. The conjunctival reaction in clinically healthy individuals makes the suspicion that they are affected particularly strong. 4. A negative result in those manifestly tuberculosis justifies a bad prognosis. 5. In advancing tuberculous disease negative reactions become more frequent. 6. A positive conjunctival reaction does not justify a good prognosis, but this is the case only in the so-called *Dauerreaction* (continued reaction). 7. It is possible to create receptors in tissues

that are indifferent as regards life, such as connective tissue, these receptors attracting tuberculin and localizing the toxic action. This observation is of therapeutic value." In a supplementary note he states his claims for priority in the discovery of the conjunctival reaction.

THE FAUCIAL TONSILS AND THE TEETH.

G. Hudson-Makuen, Chester, Pa. (*Journal A. M. A.*, June 19), emphasizes the importance of the faucial tonsils from the dentist's standpoint. Diseased faucial tonsils affect the teeth in three ways: First, by impairing the general nutrition; second, by contributing very largely to the local invasion of the teeth by the numerous bacteria that infest their crypts; and third, by their pressure, they interfere with the alignment of the teeth and with the normal development of the maxillary bones. That diseased tonsils affect the general health has been proved beyond the shadow of a doubt and the teeth suffer with it, as well as directly by contact with its filthy catarrhal secretion. The third manner in which the teeth are affected by hypertrophied tonsils has, so far as Makuen is aware, not been mentioned in the literature, but he considers it of no little importance. These glands are sometimes very large and dense, and their constant pressure on the surrounding structures may cause changes that will seriously embarrass the normal circulation and respiration, produce neuralgias, etc., as well as interfering with the normal development and arrangement of the teeth. The indirect effect of diseased and hypertrophied tonsils on the teeth and their settings through forced mouth-breathing, has been described fully by numerous observers. Makuen pleads, therefore, for the eradication of all glandular obstructions to the normal development of the teeth and alveolar arches, prior to any attempt to remedy the structural defects of these organs. He thus sums up his conclusions. The faucial tonsils and the teeth are in close approximation and they are alike subject to disease or degeneration. Diseased tonsils and teeth are locally and systematically unhygienic. Secretions from the tonsils may infect the teeth, and, contrariwise, the tonsils may be infected by the teeth. Diseased tonsils and teeth cause headache, earache and facial neuralgia, and they become a direct source of infection to the glands of the neck and, through the efferent lymphatics, to the general respiratory and circulatory systems. Hypertrophied faucial ton-

sils often become so large as to affect the ear, the circulation of blood, the nerve supply of the face and head, and the normal development of the alveolar arches. The teeth serve important purposes, but the exact function of the tonsil has not yet been demonstrated. The importance of preserving the teeth has been fully recognized, but the diseased tonsil is not worth preserving, for it has lost its usefulness and become a menace to the human economy. The only rational remedy for diseased tonsils is total extirpation.

AURAL DIAGNOSIS.

G. E. Shambaugh, Chicago (*Journal A. M. A.*, April 3), describes the anatomy and physiology of the auricular apparatus and the methods of examining it for diagnostic purposes. He lays down the following propositions as established: "First, if the semicircular canals are normal and the ear is syringed with cold water, vertigo will result and there will be set up a nystagmus increased by directing the eyes toward the opposite side. If the ear is syringed with warm water the same symptoms will occur, but the nystagmus will be toward the same side. Second, should there exist an irritation of the endings of the vestibular nerve in the labyrinth, such as may be occasioned by a circumscribed suppuration in the labyrinth, there will be spontaneous nystagmus directed toward the same side. Syringing the ear with cold water will produce a positive reaction. Third, if there occurs a sudden destruction of endings of the vestibular nerve, such as would be occasioned by a diffuse suppuration in the labyrinth, there will be set up a spontaneous nystagmus directed toward the opposite side, but lasting only from a few days to several weeks. This nystagmus has its origin in the opposite normal ear. Syringing the affected ear with hot and cold water produces no response. Fourth, in case of long standing destruction of the nerve endings, in the vestibular nerve, such as occurs in chronic diffuse labyrinth suppuration, there will be no spontaneous nystagmus and no reaction can be obtained by syringing the ear with hot or cold water. Fifth, in case of cerebellar disease, such as cerebellar tumor, cerebellar abscess or a meningitis in this locality, there will occur a spontaneous nystagmus directed toward the affected side." Hence with pronounced rotating nystagmus and normal tympanum the presence of a cerebellar tumor may be suspected. On the other hand, the rotat-

ing nystagmus in a case of suppurative otitis media without fever but with severe deafness and nystagmus toward the affected side. while the syringing with cold water produces no responses suggests a cerebellar abscess. The complete destruction of the hearing in the affected ear would indicate a probable diffuse suppuration of the labyrinth. The failure to get caloric response on syringing points to destruction of end organs in the semicircular canals. The only spontaneous nystagmus caused by this would be directed toward the opposite side. The lack of rise of temperature in most cases would exclude a meningitis, while a cerebellar abscess pressing on the vestibular nerve could produce a spontaneous rotating nystagmus which would be increased by directing the eyes to the opposite side.

MASTOIDITIS FOLLOWED BY INFECTED SINUS THROMBOSIS IN A YOUNG PREGNANT PATIENT.

M. D. Lederman of New York describes the case of a young pregnant patient in whom a mastoiditis was followed by an infected sinus thrombosis. Operation was followed by abortion, pulmonary abscess, cerebral herina, and other complications. Recovery ensued after a long illness.—*Medical Record*, May, 1909.

TREATMENT OF INTESTINAL AFFECTIONS.

In the latest edition of his Practical Therapeutics, Professor Hare says that salol "renders the intestinal canal antiseptic, and so removes the cause of the disorder, instead of locking the putrid material in the bowel, as does opium." He regards salol as one of the most valued drugs in the treatment of intestinal affections." When we add the antipyretic and anodyne effects of antikamnia, we have a happy blending of two valuable remedies, and these cannot be given in a better or more convenient form than is offered in "Antikamnia and Salol Tablets," each tablet containing 2 1-2 grains antikamnia and 2 1-2 grains salol. The average adult dose is two tablets. Therefore, we conclude that to remove the cause, i. e. to render the intestinal canal antiseptic, we have an invaluable remedy in salol; while to remove accompanying pain, to quiet the nervous system, and to reduce any fever which may be present, we have a remedy equally efficacious in antikamnia; an ideal combination for the treatment of this large class of diseases.

SCISSORS-MAGNET EXTRACTION OF FOREIGN BODIES FROM THE EYEBALL.

E. Jackson, Denver (*Journal A. M. A.*, June 19), points out that in a considerable number of cases the electromagnet, whatever its form and however used, fails to remove pieces of iron capable of magnetic attraction from the eyeball on account of their being embedded too firmly in recent exudate or organized tissue. In such cases he thinks a resource in the use of scissors attached to the magnet, and he reports two cases in which this method was successfully used. Somewhat similar methods with a knife or strabismus hook attached to the magnet have been reported by Connor and Lang, but this is different from the use of the magnet force to direct a cutting instrument to the foreign body as used by him. The special technic of introducing the scissors and a description of the instrument is also given. The article is illustrated.

Patients who show a progressive loss of vocal power should be examined most carefully for an intralaryngeal condition. An acute aphonia may be due to inflammatory condition or paresis of one cord; alcoholism, syphilis, tuberculosis, and malignant disease bring on a chronic condition. Two most important causes of chronic laryngitis are thickening due to an old inflammatory process and the presence of a small, hard, nodular tumor on one of the cords, *e. g.*, fibroma.

CONTRIBUTION TO THE STUDY OF THIOSINAMINE IN OTOTOLOGY.

Francisco M. Fernandez of Havana, Cuba, says that for the past eight months he has been experimenting with thiosinamine in the treatment of chronic adhesive otitis media. To this remedy has been ascribed the power of softening cicatricial tissue. It has been used in strictures of the esophagus, rectum, and urethra. It gives no beneficial results outside of the adhesive variety, but has had some success in that form. The author has had results far from satisfactory in six cases of the adhesive variety. It caused lancinating pains in the ears, and in some cases it caused suppuration which had ceased to be re-established.—*Medical Record*, June 26, 1909.

ABSTRACT FROM A SPEECH MADE BY CAPTAIN D. M.
SMITH, GENERAL COUNSEL NATIONAL MODEL
LICENSE LEAGUE, BEFORE KENTUCKY PRESS
ASSOCIATION MEETING AT ESTILL SPRINGS,
KENTUCKY, JUNE 29, 1909.

Georgia went dry a year ago and, during the first year of the dry regime, there are 1,364 more places paying government tax for the sale of intoxicants at retail than in the preceding year when Georgia was wet.

I make the deliberate statement, without fear of successful contradiction, that, in spite of the flaunted success of the Anti-Saloon League, in spite of the millions of dollars of liquor property confiscated, in spite of cities and counties of the States that have gone dry, every State in the Union that has gone dry within the last two years contains more persons or firms paying the United States Government internal revenue tax for the retailing of malt and spirituous liquors than in the preceding year when the State was wet.

That more liquors are sold in a dry city, county or State per capita than when that city, state or county was wet.

The pro rata consumption of distilled spirits for the year 1895 was 1.07 gallons per person; in 1900 it was 1.21; in 1905 it was 1.41; in 1907 it was 1.58. Of fermented liquors there was consumed per capita in 1895, 15.5 gallons; in 1900, 16.6 gallons; in 1905, 19.2 gallons, and in 1907, 22 gallons per capita. The 1908 figures are not yet compiled.

It has been said that this is an age of skepticism, and yet we are a God-fearing people. There is a deep-rooted reverence for the ministry that I share. As vicars of God on earth, I render to them the respect due their lofty calling, but a theological education does not give a breadth of mind, nor a call to preach the Gospel, make the recipient a statesman, and a license to be a minister never yet gave a man brains!

So long as I read of the burning of the witches at the behest of the preachers, while history tells of the tortures of the inquisition in the name of religion, with a knowledge that the old church was persecuted by the reform church, and that Christ was tried before Pilate and crucified on the cross by religious fanatics, I, for one, shall dread the enactment of laws and the dictation of what I shall and shall not drink, by any sect or

creed, when befrocked reformer means well, but Hell is paved with good intentions.

Jesus came eating and drinking, and they called him a wine-bibber—for there were prohibitionists even in those days—and yet, Christ made wine, drank wine, and commanded its use as a sacrament to commemorate His coming.

Is this law repealed? When the Mosaic law was repealed, it was through the medium of the Son of God, and the promise was made that He would come again, and I believe.

It is urged that Christ would not advocate the use of wine if on earth today, but my Bible says: "Jesus Christ, the same yesterday, today and forever," and I believe.

If one would understand the Bible upon this question, one must read for one's self, for, upon the theory that the ends justify the means, I suppose, those in the employ of the Anti-Saloon League are daily misquoting the Word of God.

"Woe unto him who puts the bottle to his neighbor's lips," thunders the anti-saloon leaguer, but the Bible says, (Habakkuk 2:15): "Woe unto him that giveth his neighbor drink, that putteth thy bottle to him, and makest him drunken, also that thou mayest look on their nakedness," which has a very different meaning.

When a lawyer misquotes the text of a law book, he is in contempt of court, and his brother lawyers call him a shyster. What shall be said of a minister of the Gospel who mutilates God's Holy Word for the purpose of deceiving an unsuspecting congregation?

The scientists disagree as to the beneficial use of alcohol, but the greatest scientist of them all, Dame Nature, who has never yet made a mistake, believes alcohol has its use, else why is it that every blade of grass that carpets the earth, every bough that sways in the breezes, every flower that brightens the landscape contains alcohol in perceptible quantities? Every vegetable and every luscious fruit contains its quota of alcohol.

It would seem that the Gracious Creator, of all the edibles that grow for the benefit of man, believes that alcohol, rather than prohibition, is good for Kentucky.

The use of alcohol is charged with a list of offenses that staggers humanity—with 90 per cent of crime, with being responsible for wives being deserted and little children being brought into the world fatherless; with the chastity of woman being

violated, and all the sorrows and shame of life. Mrs. Nannie Curtis, of Texas, charged in a speech at Lynchburg, Va., that in this country 464 men filled drunkards' graves every hour, and while that is a little over twice the death-rate and considerably more than the birth-rate, still she is probably correct. With such an arraignment of crime charged to the use of alcohol, if it were true, the use of it should be stopped in some way.

I wanted to know if the millenium appeared with the abolishment of liquor, and I went to a place where liquor is never used—neither whisky, nor beer, nor brandy, nor near-beer, nor the "Demon Rum." Oh, no, my prohibition friend, I am not speaking of Maine; the use of liquors has not even decreased in prohibition Main. I am not speaking of Georgia; you can get all the whisky you want in Georgia, and beer as cold as the charity of the world, and was not in dear old Kansas, where water is scarcer than liquor; it was in Turkey, where the use of liquor has been reduced to a minimum by the only means that ever has greatly decreased its consumption, the force of religion. In Turkey the Mohammedan religion prevails and the Mohammedan never uses liquor.

Did I find all the homes happy, with loving, indulgent husbands and fathers? Did I find crime unknown and the sanctity of woman held inviolate? Did I find God ruling supreme and human life held sacred?

No! I found men taking unto themselves a dozen wives and a hundred acknowledged concubines. I found that the Turk has so conducted himself that he is known throughout the world as the "Unspeakable Turk." I found that women, beautiful women, white women, were put on the block and, if their undraped forms appealed to the lecherous eyes of the passerby, he bought her to be his plaything. I found that life in Turkey is one long shriek of the ravished dying, and yet the Turk has not had a drink in over 1,400 years!

Contrast this land of the thirsty with Germany. Germany where the head of the house takes his family to the tavern, where they use alcoholic beverages as they should be used, in moderation.

Where is the center of learning? In Germany. Where are the greatest philosophers? In Germany. Where are the greatest musicians, the greatest scientists, the most famous artists, and the most law-abiding citizens? In Germany, where the

moderate use of liquors is universal, and whenever you hear an Irishman praising a German, you can bet your last cent that he is telling the truth.

Do not go away, my prohibition friend, and say that I claim that prohibition made Turkey a stench in the nostrils of decency, or that beer made a philosopher of the German, but I do ask you, who are not blinded to the force of example, to remember that total abstinence for 1,400 years has not cured all, nor any of the ills and sorrows and crimes that man is heir to, in Turkey, and the moderate use of liquors has not made an unspeakable citizen of the German.

But you say the German is more law-abiding than the American.

Be careful, you prohibitionist! Such an assertion is an admission that the moderate use of liquors does not cause a nation to degenerate.

The fool is wise in his own conceit, and only monumental conceit can believe that State-wide prohibition in Kentucky would accomplish what State-wide prohibition has never accomplished in any other State.

More than a generation ago, New York, New Jersey, Pennsylvania, Ohio, Michigan, Indiana, Illinois and Wisconsin adopted State-wide prohibition laws. These laws have been repealed and each of these States, except the State of Ohio, where prohibition was made a constitutional provision, but so great the financial distress, so farcical was the enforcement of the law, that today any person may violate the constitution of the State of Ohio by paying the State \$1,000.

Mr. Nordeman, secretary of the Anti-Saloon League, at Louisville, at a meeting of the Commercial Club of Louisville, Ky., stated the position of the State-wide prohibitionist when he said: "I do not object to a man having a jug or two of whisky in his cellar, but I do object to the saloon in Kentucky."

Deformities of the septum, enlarged turbinates, etc., should receive operative treatment only when they cause obstruction.—*American Journal of Surgery.*

The eradication of a hypersensitive area in the nasal mucosa oftentimes will cure an obstinate hay fever.—*American Journal of Surgery.*

OPHTHALMOLOGY AND GENERAL PRACTICE.

A. A. HUBBELL, Buffalo, New York, (*Journal A. M. A.*, June 26), in his chairman's address before the Section on Ophthalmology of the American Medical Association, after first noticing some features of the program, speaks of the insufficient attention given to ophthalmology in medical schools and the too limited qualifications of the general practitioner in this line. Too many physicians are inclined to dismiss eye cases, and the result is the encroachment of the still more unqualified commercial "optometrist." There is some complaint also to be made of the professed ophthalmologist who too often begins his work as a specialist with a too superficial knowledge of the subject and without experience in general medicine. The tendency to separate ophthalmology from general practice too exclusively, is also a harmful factor as is also the lack of any legal qualifications beyond that of the general practitioner for any specialty. As to the remedy, Hubbell says that we can first strive to disabuse the public, the profession at large, and the medical school authorities that ophthalmology is so suited to exclusive study and so separate from other departments of medicine that it should be set off by itself and made only a voluntary subject for study and practice. It is not difficult to comprehend, and the diseases of the eye are the last that should be excluded from the physician's practice, as they are to be found everywhere, and with an ordinary knowledge of the subject, the general practitioner can do very much good and render to his patients the assistance they are entitled to expect. Accompanying a change in public and professional sentiment in this way there should be a corresponding change in medical teaching which will enable the general practitioner to acquire a sufficient amount of ophthalmic knowledge to meet his future needs as a family physician. The subject should not be a voluntary one in his medical course and it should be sufficiently taught to qualify the graduate to treat all ordinary and infectious diseases of the eye, to distinguish between mild and severe ones, to treat injuries of the eye which are superficial and uncomplicated, and to examine for refraction errors and correct at least the simple forms. He would add also a supplementary examination by the state board covering these points, the successful passing of which would be one of the conditions for license to practice. This would be a check to any neglect on the part of medical schools. It is unfortunate that no quali-

fications for practice have heretofore been required of the ophthalmologist other than those of the general practitioner. The absence of these and the presence of a dominant spirit of commercialism have, on the other hand, since in many cases too much haste in beginning this special practice after finishing undergraduate work, with perhaps a few weeks in post-graduate studies. Ophthalmologists are increasing in number and the unqualified ones are also increasing in number. In order that protection may be secured against unqualified ophthalmologists, he suggests that the course and subjects of study shall be regulated by law, and that special boards of examiners should be appointed to determine his fitness for practice and authorize a license in this specialty. But the qualifications that it should demand are extended and thorough post-graduate study of every new subject bearing on ophthalmology, personal experimental study in the laboratory, and personal clinical work in a hospital or in his preceptor's private office. He offers these propositions to the section, and, if accepted, recommends the appointment of two committees, one to determine the amount of qualifications to be demanded of the general practitioner, and the other to determine and secure the necessary changes and the qualification of the ophthalmologist specialist.



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BOOKS AND PAMPHLETS RECEIVED.

"Monthly Bulletin," Illinois State Board of Health, April, 1909.

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"Digest of Comments on the Pharmacopœia of the U. S. A. Bulletin No. 49," by Murray Galt Moter and Martin I. Wilbert, Govt. Printing Office, 1909.

"Our Dumb Animals," Boston. June, 1909.

"Clinical Excerpts," April-May, 1909. Farbenfabriken of Elberfeld Co., New York.

SURGICAL SUGGESTIONS.

In surgical shock strychnine an alcohol aggravate the condition.—*American Journal of Surgery.*

Syphilis simulates nearly every other surgical disease, and the most virtuous are subject to its ravages.

A bilateral thickening of the nasal septum means either an old traumatism or gumma.—*American Journal of Surgery.*

The presence of diabetes should not deter the surgeon from giving a patient with that malady the benefit of relief from a surgical disease.—*American Journal of Surgery.*

In operating for intestinal obstruction in the colon, the first thought should be to save the life of the patient. This can often best be done by making an artificial anus. Too many patients are sacrificed to the surgeon's zeal to do a complete and mechanically perfect operation at once.—*American Journal of Surgery.*

Gangrene of the extremities may be due to senile changes; local infection; mechanical injury to bloodvessels; tumors; diabetes; constitutional infective febrile disease; poisoning with ergot, lead, phenol, arsenic or tobacco; syphilis; trophic cord lesion; Bright's disease; leprosy; embolism; frost; ainhum; or Raynaud's disease.—*American Journal of Surgery.*

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—Editors—

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SPASMS OF THE LARYNX.

BY W. CHEATHAM, M. D.

"The common form of spasm of the laryngeal muscles is that of the adductors. The muscles that close the glottis are more powerful than those that open it, no doubt because firm closure is necessary for the process of coughing and in order to fix the thorax during muscular effort. Moreover the reflex mechanism is connected chiefly with the glottis-closers, doubtless to protect the air-passages from foreign bodies, or to aid in the expulsion, by coughing, of any irritant substances that have gained an entrance. Hence any nerve irritation, direct, central, or reflex, causes closure and it is not surprising that spasm accompanies a large number of laryngeal diseases, varying in its prominence according to the irritative nature of the disease and the excitability of the reflex mechanism. The latter is far more intense in children than in adults and hence in them the slightest laryngeal catarrh gives rise to spasm. Attacks occur especial-

ly at night, when the reflex mechanism, released by sleep from the control of the higher centers, is in its most active state. Spasm may occur from irritation, not only of the superior laryngeal nerve, but also of the vagus below, as when the latter is compressed by a tumor in the upper part of the chest, the afferent impression is due to irritation of the sensory fibres from the trachea. Reflex spasm is always bilateral. Direct spasm from irritation of one recurrent laryngeal usually involves only one vocal chord, but in a few cases spasm, so excited, has been bilateral. This may be explained either by the irritation of some afferent fibres or (according to Krishaver) by spasm of the arytaenoidens which is a bilateral muscle. Simple spasm occurs in rickety children in whom the nervous system is in a condition of excessive reflex excitability. In this form, which is termed "laryngismus stridulus," the vaso-motor and cardiac centers of the medulla are also deranged: the child, on some exciting cause, suddenly turns pale, is unable to get its breath for a few seconds, and then, the spasm relaxing, air is drawn through the slowly opening glottis with a crowing noise. Paroxysmal attacks of laryngeal spasm sometimes occur in adults, usually in the night. They are apparently analagous to attacks of asthma, the spasm affecting the larynx instead of the bronchial tubes. The sufferer wakes up with a feeling of suffocation, intense difficulty of breathing, and loud laryngeal stridor which after a few minutes passes away. During the spasm the distress may be extreme, the patient tears open his clothes and may seem at the point of death. Such occasional attacks have been known to recur from time to time during many years. They have been known to replace attacks of migraine (Liveing) and are occasionally met with in the subjects of locomotor ataxy in whom they have been termed "Laryngeal crises."

The paroxysms of laryngismus stridulus probably differ only in degree from the general convulsions that are also common in rickety children. In most epileptic convulsions there is laryngeal spasm which causes the initial "epileptic cry." During the paroxysms of hydrophobia there is also a spasm of the glottis.

“Lastly, spasm of the larynx is met with in certain general neuroses, in tetany rarely, in hysteria occasionally. In the latter it may occur in paroxysmal or more continuous form. The paroxysmal form constitutes one variety of hysteroid convulsion. The continuous form is very rare. There is tridor with inspiration and expiration, the voice is feeble, and there may be hysterical rapid breathing. The diagnosis from hysterical abduction-paralysis rests on the fact that the stridor in spasm accompanies inspiration as well as expiration, and the voice is more altered than in abduction-palsy, in which also the loud whistling inspiration contrasts with the almost noiseless expiration. The laryngeal symptoms usually partake of the character of the other disturbances that may be present: the spasm is accompanied by other spasmodic or convulsive symptoms: the paralysis, by loss of power or of sensibility. It is probable that some cases of supposed spasm have been really instances of abduction-paralysis.

“A rare condition of functional spasm has been described in which spasm is excited by attempts to speak. It is, so to speak, the converse of phonic paralysis. In the latter the cords cannot be brought together in speaking: in the functional spasm they are brought together too forcibly. Either the patient cannot speak or speaks at first in an altered voice, which ceases altogether when a greater effort is made, on account of the increased spasm that the effort induces. Apart from attempts to speak there is no laryngeal disturbance. It has been termed ‘spastic aphonia,’ or ‘phonic-laryngeal’ spasm, by Schnitzler, ‘spastic dysphonia,’ by Schech, and ‘co-ordinated laryngeal spasm,’ by Notlmagel, because he observed it to accompany other voluntary movements of the larynx besides those of speech, while it was absent in all involuntary and automatic movements. The spasm may be attended with pain in the larynx and even in the upper part of the thorax. The affection has been compared to writer’s cramp, but differs from this in its general etiological relations, and in its greater amenability to treatment.”

The case I wish to report is in the person of Miss F.,

age 32, who came to my office August 20, 1907, while I was in Europe; and was attended by Dr. Sam Brenn Hays, for middle ear trouble. He relieved her promptly by inflations. After my return home she came to see me (this was on September 21, 1907), with a suppurating middle ear; I was some weeks curing her of this. Her throat trouble came on, she says, with this last involvement of the ear. The ear never discharged very freely. The throat trouble came on with a very rapid pulse, no temperature, great dyspnea, some cough, which was croupy, or rather, like the whooping cough. At night she had spells of strangling. There is no difficulty in breathing except when she has these sudden attacks; they are at times very frightful. Digitalis, given by her house physician, controls her pulse. She has a feeling of pressure just under the upper end of the sternum; she at times had some trouble in swallowing. She has a throat rather difficult to examine; I have to cocaine the throat thoroughly first. I find some local congestion, the cords normal in position during respiration, but just as soon as she endeavors to phonate, the cords close quickly and appear to want to stay closed. She is hoarse; there seems to be great trouble in forcing the air through the glottis when talking; she has exacerbations of her trouble. Friday last I made an application of Protargol 40 per cent solution, to her larynx, which brought on quite a spasm. Monday she reported as having had but little trouble. I made the same application Monday, of which she complained but very little, yet she telephoned me the following day that she had had much more trouble since. Dr. Zimmerman examined her and he reports no heart lesion, but a rapid heart; no lung lesion, but some dullness under the base of the sternum; no tuberculosis history. Since this report was made, Drs. Cuthbert, Thompson, Marvin, Bailey, Sidney J. Meyers, and Dr. Zimmerman have examined her and two of them claim to get a slight Bruit. The pulse is from 120 to 140, but soft; general health good outside of symptoms given; has had some numbness of tongue and great pain in upper part of chest; had an aunt (her mother's sister), die of malignant disease. Dr. J. W. Irwin has examined her since and says she has an

enlarged gland, a solid growth preying upon the recurrent nerve, and carolia.

Kyle calls these cases "Dyspnoe Spastica." I do not think his description of the trouble quite reaches this case; time may have to decide, as there is great difficulty, in the early stage of mediastinal trouble, of making a diagnosis. The patient is much better at times. This, of course, does not mean that there is no possibility of there having been pressure on the recurrent laryngeals, or even of there being pressure there at present.

We are all familiar with the many causes (besides those local in the larynx), of laryngeal paralysis and laryngeal spasm; these causes are more often in the upper part of the chest. Gower tells us that symptoms due to paralysis of the vagus are more frequently met with than those the result of irritation; occasionally both are combined. Laryngeal spasm and vomiting are the irritative symptoms most commonly met with, but occasionally cardiac inhibition occurs. The incessant frequency of the pulse which corresponds to paralysis of the vagus has been several times noted.

This case as presented is very incomplete; time and the medicine man will help us out. I have reported several times a severe case of abductor paralysis I had some years ago, in which I intubated, keeping the patient alive for months; this was a case of extreme anæmia, or myxoedema.

DISCUSSION.

DR. W. ED. GRANT: Dr. Cheatham has presented an exceedingly interesting case. I am convinced from examination of the patient that she has a beginning aneurism of the aorta which, I think, will gradually go from bad to worse. I do not look for any improvement; on the other hand, I believe it will gradually become larger and larger, and the discomfort greater and greater.

It is very difficult to make diagnosis of aneurism of any part of the aorta. We are helped a good deal by the condition of the pulse and the symptoms which are referable to it. Sometimes we may be quite confident that we have a case of aneurism but when a long time elapses and

the symptoms do not get worse as we expect them to, we are inclined to doubt our diagnosis. It depends somewhat upon the location of the aneurism. In this part of the aorta I think diagnosis is fairly plain, and that we will have it confirmed before a great many months have passed.

DR. J. W. IRWIN: I regret to speak after my friend, Dr. Grant. I cannot agree with him. I have examined this patient very carefully in my office when Dr. Cheatham kindly sent her to me. I went into every phase of it. I used the various methods and the tugging sign of McDonald, all of which were negative. If there had been an aneurism of any portion of the arch of the aorta (the ascending or descending portions) there would have been some evidence to show it. There was nothing of the kind present. I examined the patient tonight and find less disturbance than when I saw her before. At that time there was a slight murmur transmitted down through the thoracic aorta; tonight it is barely audible.

There are some important signs of aneurism which are totally missing in this case, the most important of which is the sound of two heart beats. We have nothing of the kind in this case.

We do not have that hoarse murmur known as bruit, although aneurism may sometimes occur without it, when it is filled with a clot, but the history of syphilis, mycosis, and several other conditions that would produce it, the excessive use of alcohol, etc., are all absent. Aneurisms grow outward. You will always find a tender point or a pulsating tumor somewhere beneath the sternum. After it has existed for two or two and one-half years, you can detect it in nearly every instance. Other growths grow inward. There is no external growth here. Then what is the growth?

In making diagnosis of this case we must consider all its phases. That is what I thought I had done when I saw this patient in my office and it is what I am very frank to say I have confirmed tonight. Digitalis never cured aneurism, and who would prescribe digitalis for aneurism when it simply increase the force of the heart

and arteries. It may be a new method of treatment; but those who have large experience in the treatment of these conditions never prescribe such a thing as digitalis. The distress incident to pressure upon some of the nerves here is not sufficient to justify us in using digitalis to afford relief. Any pressure on the nerves will cause this stridulous breathing, especially the laryngeal nerves, but we find in this case that, while there is a slight murmur, it is not under the sternum—it is transmitted down through the chest. At the seat of an aneurism you hear a murmur—there is no question about it. You have a double murmur—the throb of the heart and the modified pulsation in the aneurism. It is never absent unless the aneurism is filled with a clot.

The growths most frequently found in the chest are—first, cancerous growths; second, lymphoma; third, lymphadenoma. It is very clear that this is not the first or the patient could not have lived this long. It is also very certain that, whatever it is, there is not anything like the same evidences of a murmur that there was when I first saw her. She has less cough, less pain, less stridulous breathing; there are longer intervals between the paroxysms. There was no local evidence of aneurism when I first saw her and there is none now. Remember that aneurisms always grow outward, while all other growths grow inward, and in this case there is nothing growing outward. I do not believe any one has been able to feel a second pulsating point in the chest. So, I am very frank to say I believe this woman will get well if you give her time and it will not take so very long. Iodides is what I prescribed for her, but she did not return to me and I do not know what effect they have had on her.

DR. H. J. FARBACH: The etiology and history in this case would help in making a diagnosis. There must be in these idiopathic aneurisms, a history of syphilis, gout, rheumatism, chronic interstitial nephritis, or an excess of some kind that causes the beginning change in the artery. I do not know whether there is such a history in this case.

All aneurisms do not grow out to the front. The majority of them do, but some go to the back. Halsted's work in the treatment of aneurisms is very interesting. In the last number of the journal of the Rockefeller Institute, he tells of twenty cases in the human which he treated by means of the metal band, and he was successful in all these cases. He applies the band with a special apparatus and adjusts it with the finger. The results, as shown by autopsies held on dogs treated in this manner, have been very interesting. If he gets the band too tight the coats of the artery become completely absorbed, and he finds nothing but a fibrous-like cord under the band. In partial obliteration the difference in the blood pressure above and below the band is very great. Then he has in some few instances, adjusted the band so that just the lumen of the artery has been obliterated and a solid, fibrous cord remains. This he calls "ideal obliteration." In a number of instances he obliterated the lumen and proved this by cutting out a section above and below the band and trying to get water past the band, but after removing the band he cannot only get the liquid past where the band was but, by removing the band and opening up the artery, he can restore all the folds of the artery.

DR. J. M. MORRIS: I did not hear Dr. Cheatham's paper and I am very sorry that I did not, but I am very much interested in the case and in the discussion. It seems to me there are two points which would argue against this being an aneurism. In all aneurisms there is a history of pain which increases as it goes along, and the tumor increases in size as time goes on. In this case there is no history of these two conditions. She says she does not now suffer any more inconvenience upon respiration than she did a year ago, and she also says that she does not have any more pain, or probably not as much, when the paroxysms come on as she did a year ago. These two points, it seems to me, would argue very strongly against this being an aneurism.

As to the treatment of the condition, whether it is an aneurism or whatever it may be, one of the gentlemen

said that he would put her on iodides under the belief that that would clear it up. It occurs to me, that we ought to know what we are dealing with, before prescribing any specific treatment, and to know just what benefit is expected to result from any given line of treatment. I believe it is recognized that the proper treatment for aneurism (if this is an aneurism), is rest, proper nourishment and proper hygienic surroundings. That is practically the only treatment we have for the condition.

DR. BRUCE: I have nothing to say other than along the X-ray line. The pictures show some abnormal condition, or growth; just what it is, I am not in a position to say. We must take into consideration the fact that the X-ray is simply one link in the chain of diagnosis; it confirms the diagnosis that the general practitioner has made from the general symptoms. In this case it shows an abnormal growth in the mediastinal space. It is a sacular condition, just at the point where the aorta arches.

DR. J. A. FLEXNER: I do not know that I can add very much to the discussion, but I feel like saying that all sorts of negative evidence is scarcely competent to overthrow positive evidence. I have not had an opportunity to examine this patient except in a cursory way once or twice, but there are certainly some findings which accord very much with the diagnosis of sacculated aortic aneurism of exceedingly slow growth and development, than with the diagnosis of mediastinal growth. I attach a great deal of importance to what is shown by the X-ray picture; also the retrostinal dullness. There is no question about the difference in the two pulses and she has a faintly perceptible thoracic thrill and, while the tracheal tugging and double heart sound that Dr. Irwin speaks of are absent, and the bruit is not constantly audible, still all this is not inconsistent with an early stage of dilatation of the aorta. I happen to have under observation a man whose occupation has never been such as to entail hard work (which, by the way, is one of the etiological factors in the case of this young woman), who has abso-

lutely no specific history, and has never been a drinking man, who has been complaining for two or three years. The first light I got in his case was increase in the retrosternal dullness and difference in the two pulses. X-ray pictures absolutely confirmed diagnosis of sacculated aneurism of the arch of the aorta. The history of the case is somewhat similar to this. I put this man to bed, put him on what is known as the cardiac diet and gave him iodides, largely because they are arterial depressants. When we began this treatment he had arterial tension varying between 240 and 260 millimeters ———, great praecordial pain; no tracheal tugging. There is none now, nor any bruit. He has chronic interstitial nephritis. The rest in bed, alteration in diet, and administration of the iodides in fair amounts has brought about a very distinct systemic improvement to such an extent that, within the last two or three weeks, I have premitted the patient to attend to his business a certain number of hours each day. A few weeks ago it was utterly impossible for him to walk up the steps unaided. Now he walks up and down without inconvenience, and last Sunday, he walked clear through Central Park and back to his residence without discomfort. I have managed the pressure element in his case in such a way as to keep it within 200 millimeters of mercury.

It appears to me that the vital point is the early recognition of these cases. If I would characterize the present era of medicine as disturbing in anything, it is the importance attached to early diagnosis—the early recognition of serious conditions before they become so plain that any one can see them.

When an aneurism has almost worn through a rib, when the tumor on the outside has become almost as large as a man's fist, or we have paralysis of one or both cords, and the bruit and tracheal tugging become perfectly plain—that man is nearly ready to die, and the time has long since passed when we can help him. It is the early stage in appendicitis, conditions in the kidney, tuberculosis, and the early recognition of disease of the blood vessels that enables us to deal with them in the proper way and, I am sure, enables us to offer greater length of life to

these patients, than if we wait for the pronounced symptoms described by the early text-books. In this case, if this was a sacculated hernia engrafted on the ———— sufficient time has elapsed since the condition began to have allowed enough fibrin to be deposited so that we could not get any bruit, and it might even diminish in size. This is perfectly probable and has not only been theoretically proven, but there is a specimen in the pathological museum at ————, showing a practically healed aortic aneurism. In one of the bulletins of the Johns Hopkins Hospital ———— has pictured just such an aneurism.

DR. CHEATHAM: I have nothing to say in closing, except to thank the gentlemen for their discussion of the case.

REPORT OF A CASE OF DELAYED REDUCTION OF A SUBCORACOID DISLOCATION OF THE SHOULDER.

BY GEORGE A. HENDON, M. D., Louisville, Ky.

Last October (1907) I was asked to see Mr. S., Act. 70, farmer, on account of an ulcer upon the dorsal surface of the hand and on the forearm which had refused to heal. The diagnosis was senile gangrene and I was warned to be prepared to amputate. There was a history of a fall from a stable loft six weeks previous. He was anesthetized at the time and a spica bandage placed on the shoulder. The patient was instructed to bathe the affected hand and arm in hot water for relief of pain. Loss of tactile sensation followed shortly after the fall; as a consequence water heated to too high a temperature was applied and a large ulcer resulted.

On my visit I observed the ulceration with pronounced wrist drop, complete loss of function, and emaciation of the limb. The diagnosis of unreduced dislocation of the shoulder was made, based upon the patient's attitude in the sitting posture. Closer examination confirmed my opinion. The man was taken to the Gray Street Infirmary and the next day an effort was made under anesthesia to replace the transposed bone. After making a few efforts we desisted for fear of inflicting greater injury. We then made a long incision over the outer contour of the shoulder and the joint was reached by blunt separation of the fibres of the Deltoid and division of capsule. The head of the bone was replaced by direct reposition. The wound healed by first intention. The ulcers on the hand and arm healed under a simple dressing, but muscular power and tactile sensibility has returned somewhat slowly.

The patient was now referred to Dr. John C. Rogers, who has kindly consented to join me in reporting the case.

REPORT OF A CASE OF BRACHIAL NEURITIS.

BY JOHN C. ROGERS, M. D.

Mr. S., aged 70, was referred to me by Dr. G. A. Hendon in January, 1908, with a history of a fall from a loft upon the right shoulder, causing a subcoracoid dislocation of the upper end of the humerus. Soon after accident there was complete paralysis in arm and hand, with more or less pain in shoulder and along ulnar and musculospiral nerves.

Six weeks later Dr. Hendon operated and reduced dislocation.

On examination, six weeks after operation, I found Mr. S., was able to slightly raise forearm with complete loss of function in wrist and fingers. Hand and forearm were swollen to twice normal size, with already be-

gining atrophy of the muscles of the upper arm. There was a pronounced wrist drop, which had resulted soon after accident. Stimulation from electricity or any effort of the patient to move the arm caused a coarse tremor of 2 to 3 per second, denoting considerable injury to brachial plexus.

Examination by electricity gave almost complete reaction of degeneration in muscles supplied by musculospiral, ulnar and circumflex nerves. The faradic current gave a slow, sluggish contraction in other muscles.

There was complete loss of tactile sensation over hand and forearm. The application of electricity along the ulnar and musculospiral nerves caused some pain, especially at the termination of the posterior interosseous. One noticeable point in this case was the atrophy of the spinatus muscles due to injury to suprascapular nerve.

Applications of the galvanic current were made every day to begin with; strength of current about 10 Ma. or what was required to just get a response from the muscles, using negative pole at the nape and positive over paralyzed area. After each treatment arm was covered with absorbent cotton and bandage and supported across front of body by sling. This course was kept up for six weeks, at which time the swelling had disappeared and there was improved motion in arm with perceptible movement of fingers. I now instituted more vigorous treatment with the addition of gentle massage. As there was no history of specific or rheumatic influence, iodides and salicylates were not given.

The third month the treatments were cut down to three a week; this was kept up for two or three months, then the patient was given a rest for the month of August. At this stage the wrist drop had disappeared, with still gradual improvement in atrophy and motion. The first of September Mr. S., was started on one treatment a week, using principally the faradic current. This treatment is being kept up at present writing.

The patient can now supinate forearm fairly well; raise hand to his mouth and pick up newspaper between fingers and thumb, and in six months hence I predict a fairly useful arm.

Recent Progress in Medical Science.

PROSTATIC CANCER.

DEAN LOREE, Ann Arbor, Mich. (*Journal A. M. A.*, July 24), says that little of practical value appears in the literature on this subject prior to Oraison's report in 1903 of 23 cases. He reviews the subsequent literature, and notes that the later authors discourage extirpation in these cases. The figures as to the frequency vary widely, but it is apparent that malignancy dominates many of our cases of prostatic enlargement, and that cases will become more frequent when microscopic examinations are more frequently made. The malignancy is not extreme while the disease is still localized in the prostate, but it becomes rapidly fatal when the seat of the disease has changed to the bone, which as in cancer of the thyroid and mammary gland, is not infrequent. The earliest symptoms are those of ordinary senile hypertrophy. How often the malignant process is grafted on the hypertrophy; whether it is suspected or not, the hemolytic action of the blood should be tested as a routine procedure, though this is not accurate in more than 85 per cent of the cases according to Crile. The microscopic examination should be made at time of operation by means of the frozen section. Under certain conditions when this is impracticable, or can not be done immediately, the operation may be performed at two sittings. When the lobes enucleate easily with the finger, a malignant process will be confined to the interior of the lobe or lobes, and a more radical operation will not be so apparently necessary. The surgeon, however, must take the responsibility of not doing more. The success in the future will depend on the early diagnosis and treatment. Five cases, all recent, are reported, with one hospital death, therefore final results can not be given. Whether extirpation or enucleation is best as a conservative measure, it is not yet possible to say, but we must admit that the former can be regarded only as a palliative after the disease has involved the capsule, but unless we can report cures by extirpation or, at least prolong life, we must confine ourselves in future to palliation. Loree

does not altogether like to admit this, and thinks that extirpation must be the operation of choice in certain selected cases of capsular invasion.

SCLEROMA OF THE RESPIRATORY TRACT.

J. H. Gnutzer of New York says that scleroma has neither geographical boundary nor ethical limit. It is found especially in Russia, Austria and Prussia. Climate and sex have no influence on its occurrence. It may be defined as an infectious granuloma, slowly progressive in course, characterized by nodular, compact infiltration of the nasal vestibule, resulting in complete closure of the nostrils, and extending to the pharynx, larynx, trachea, and bronchi. The sense of smell is preserved, which indicates that the superior meatus is not affected. The point of origin is unknown, and the age varies, it being generally seen between twenty and thirty or later, although cases are seen in children. It is a disease confined to the poorer classes. The French bacillus plays an important part in its causation, being found in the exudate and in its tissue proper. The author has shown by its use in one case that a vaccine prepared from this bacillus can produce local immunity. This bacillus is Gram positive, has a lively motility, when examined in a hanging drop, and grows smaller and thinner as the age of the culture increases. No conclusions can be drawn from the agglutination test. In biological experiments not sufficient time has been allowed to pass to get results in so chronic a disease. It is generally accepted as an infectious disease, perhaps contagious, and it may be propagated by some insect by which it is carried from one person to another. It is probably of inflammatory nature, and its three characteristics are the bacilli, Mieniez cells, and hyaline bodies. The examination of a large piece of tissue is necessary for a pathological diagnosis. The general symptoms are few, the manifestations being entirely local, and depending on the amount of pressure and infiltration of the organs attacked. A deformed contour of the nose is found in only a few cases. Metastasis rarely occurs. The diagnosis is not easily made. Two illustrative cases are given. The X-ray treatment

is the best weapon against it.—*Medical Record*, July 24, 1909.

THE IMPORTANCE OF NUTRITIVE REPAIR.

In the treatment of all bodily disorders, associated with loss of weight and general vitality, is too patent to need more than passing emphasis. The question of how best to bring about such a desirable result is, however, one that the physician is daily called upon to answer, and upon his ability to "build up" his more or less devitalized patients will largely depend his success in the treatment of chronic affections. Taking, for example, a patient suffering from Pulmonary Tuberculosis in the incipient or secondary stage, what are the approved measures to adopt to bring about improvement of nutrition and a consequent gain of weight and strength? All phthisiotherapists now agree that the therapeutic trinity of salvation for the tuberculosis invalid is composed of: 1—Fresh, pure air, in abundance, both day and night; 2—A properly balanced amply supply of nutritious food; 3—Plenty of rest, especially during the febrile period.

While medication is useless, unless the patient is properly fed, "ventilated" and rested, as above referred to, there is no doubt that intelligent medical treatment, designed to promote nutrition, is indicated in a majority of cases. If the tuberculous patient has been neglected, for any length of time, some degree of anemia is almost always present. In such cases, an absolutely bland, non-irritant, readily tolerable and assimilable form of iron, such as exists in Pepto-Mangan (Gude), cannot be but of benefit, by stimulating the formation of erythrocytes and hemoglobin, and thus augmenting the oxygen-bearing potency of the blood. Metabolic interchange is thus quickened, better absorption and assimilation of food follows, and as a consequence, nutritive repair is encouraged and hastened.

OF GENERAL INTEREST.

During the next few weeks the work of the Milk Inspectors will be concentrated in the districts where the

highest infant mortality was reported last year as indicated by our spot maps. An effort will be made to counsel and to co-operate with the milk dealers in these districts with the aim of materially improving the milk supply this summer.

Primarily it will be necessary to have all places where milk is handled in good sanitary condition, and all utensils and receptacles in which milk is conveyed perfectly clean, sterilized if possible. Such sanitary conditions, if they can be procured, together with the proper refrigeration, should result in a marked betterment of the milk delivered in these communities. Wherever it is possible the Department Inspectors will insist that the milk be iced from the time it reaches the city until it is delivered to the consumer.

Unfortunately we cannot supervise carefully enough the care of milk in the home. Here purity, cleanliness and cold are just as essential. Whenever milk is placed in a can and exposed to the air all the bacteria which get into the milk from the air will increase rapidly as long as the milk remains warm. At 45 degrees Fahr. or below they remain dormant or increase very slowly.

If the producer and dealer will do their duty there will be left daily at the consumer's door a bottle of clean, cold, unadulterated milk. It will then be up to the housewife to see that the milk is kept clean and wholesome. It will become unfit for food, especially for babies, by improper treatment in the homes. Improper treatment consists first, in placing it in unclean receptacles; second, exposing it unnecessarily to the air; third, failing to keep it cool up to the time of using it.

If the consumer is so situated that it is impossible to get bottled milk, he certainly should not set out over night an uncovered vessel, which will collect thousands of bacteria from street dust, etc., before the milk is put into it. It is better in such cases to have the milk delivered personally to some member of the family, if possible. If this cannot be done, set a jar covered with a plate or better still, use a glass preserving jar, fitted with the proper cap. The cap and the jar should be perfectly clean and scalded with hot water before setting out to re-

ceive the milk. Take the milk into the house soon after delivery, especially in hot weather. If this is not convenient, let a place be provided where the milkman can put the milk. Never let the sun shine for any length of time on the milk. Put the milk in a refrigerator on receiving it. Milk cannot be properly kept without ice.

If no ice box is at hand, send to the Department for a circular describing the manner in which a cheap refrigerator may be constructed at home and operated at a daily expense of less than 3 cents.

If ice is not available, the bottle of milk, tightly sealed, should be placed in a jar and cold hydrant water allowed to trickle down the sides, into the jar and overflow, the top of the bottle to be above the water line.

Keep the milk in the original bottle until needed for consumption. Do not put your milk into a bowl or pitcher for storage. Do not pour back into the bottle milk which has been exposed to the air. Keep the bottle covered with an inverted cap or tumbler as long as there is milk in it.

Milk deteriorates on exposure to the air in the pantry, kitchen and the nursery. Do not let milk stand in these places, always return it to the refrigerator properly covered.

Keep the refrigerator clean and sweet. The place where the food is kept should be scalded every week with sal soda solution, as a drop of spilt milk or a small parcel of food will contaminate a refrigerator in a few days.

As soon as the milk bottle is empty rinse it in luke warm water until it appears clean. Do not use it for holding anything but milk. Never return filthy bottles. All receptacles with which milk comes in contact should be rinsed and scalded every time they are used.

If these precautions are not taken in the home, the efforts of the dealers and producers will be ineffective to a large extent, since part of the milk is kept nearly twenty-four hours in the home.

The gratifying low mortality of the preceding week was even improved upon during the week just ended. The total—479 deaths from all causes—is equivalent to

an annual rate of 11.23 per 1,000 of population, the lowest death rate recorded for a July week since July 8, 1905.

Deaths among children under 1 year of age were remarkably low—76 as against 115 the corresponding week a year ago and 84 the week immediately preceding.

The diarrheal diseases caused only 31 deaths in the seven days, 23 of which were among children under 2 years of age. This is the lowest diarrheal-disease mortality that has been recorded in this city at this season of the year, since 1904.—*Chicago Health Bulletin*, July 10.

Dr. C. P. Cook and Dr. W. J. Leach, of New Albany, are spending the summer in Europe doing post-graduate work.

THE MEDICAL ERA'S GASTRO-INTESTINAL EDITIONS.

During July and August The Medical Era of St. Louis, Mo., will issue its annual series of issues devoted to gastro-intestinal diseases. The July number will take up the usual bowel disorders of hot weather and the August number will be devoted entirely to typhoid fever. These issues always attract considerable attention. The editor will forward copies to physicians applying for same.

The A. Y. P. Exposition is now open, until October 16. No doubt many of our subscribers will pay the Exposition a visit.

We have been informed that a Modern Equipped Emergency Hospital has been set aside for visiting phy-

sicians, where they may receive their mail, write letters, etc., and the staff will extend to the visitors all courtesies, which undoubtedly will be greatly appreciated.

THE TREATMENT OF FRACTURES.

J. P. WARBASSE, Brooklyn, N. Y. (*Journal A. M. A.*, March 13), says that the old and simple methods of diagnosis in fractures are of the greatest value and, if as some appear to be doing, to trust entirely to the X-ray results in blunting one's diagnostic sensibilities and placing one at a disadvantage when the facilities for the use of the X-ray are not at hand. The X-ray is most valuable for corroborating the diagnosis, clearing up difficulties and bringing out details but should not be depended on altogether. The subject of fractures, though one of the oldest in surgery and dealing with one of the commonest of surgical lesions, has not yet reached the same degree of perfection as some of the other branches of modern surgery. There is much misconception on several points. One of these is non-union and students are taught much about constitutional weakness, old age, and lack of earthy salts in the blood. These, Warbasse thinks, are insignificant. The vast majority of cases of non-union are due to the interposition between the ends of the fractured bone, of fascia, muscle, or other non-bony tissue. Let broken bone surfaces be held in close apposition, they will grow together. But, let soft tissues be interposed and the chances are for non-union. Swelling is another important matter and we may put it down as a pretty general rule that it is in direct proportion to the amount of mobility. The bone exudate amounts to but little. It is the damaged blood channels of the neighboring soft tissues that cause the swelling. Hence the advantage of early immobilization. There is a common notion of waiting until the "traumatic reaction has subsided." But there is a traumatic reaction going on so long as the bones are out of place or are movable, and if we can effect immobilization soon enough the swelling will not occur. For many years Warbasse has been in the habit, in practice, with the leg seen two to twelve hours after the accident, of drawing a long white cotton stocking over the leg and apply-

ing a thin plaster cast directly over this. If properly and smoothly applied, with the bones in good apposition and with no unusual condition present such as imperfect reduction, rupture or large vessels, or venous obstruction, there will be no further swelling. If pain is present the splint should be removed, but this is rarely the case. It would be dangerous teaching, to recommend this treatment invariably in all cases, but he claims, that it is the best procedure in experienced and skilled hands. Another practical point mentioned by Warbasse is extension in connection with the thigh and he insists on the importance of applying this extension soon after the accident. The time to put on the maximum extension is at the very first—from 25 to 40 pounds in a man—then in a week, ten days, or two weeks, this weight can be reduced, or even sooner if necessary. The X-ray has shown that an accurate replacing of the fragment of the long bone is rarely attained, though the belief of the public is unfortunately otherwise. Open operation is the only method by which it can be guaranteed and we should teach that a perfect functional result is sufficiently satisfactory. He desires to emphasize the following points: “(1) The perfect reduction of fractures of long bones is difficult and often impossible without operation. (2) Without the X-ray we are always in the dark as to the actual conditions present. (3) Reduction with mathematical precision is not absolutely essential for a good functional result. (4) If surgeons would display as much zeal in discussing their imperfect results as they do in presenting their triumphs, our literature would be richer, more practical and of vastly more value, and the public would be less prone to expect impossible things in the treatment of fractures.”

SUTURE OF HEART WOUNDS.

G. T. VAUGHAN, Washington, D. C. (*Journal A. M. A.*, February 6), gives a historical sketch of the operative surgery of the heart and reports a case of successful suturing of a wound, one-third of an inch in length, opening into the right ventricle. Two rows of silk sutures were used and two bleeding points caught up and ligated with catgut. The pericardium was closed with a continuous catgut suture without drainage. He tabu-

lates and analyzes the reported cases, and summarizes his conclusions substantially as follows: 1. There is no question as to the propriety of operation, since 35 per cent of the patients recover, as compared with 15 per cent, (according to Holmes and Fisher, 1881), of recoveries after non-operative treatment of heart wounds,—a gain of 20 per cent. 2. The mortality is practically the same as that of twelve years ago, when the operation was first attempted, and it behooves the surgeon to study the matter and seek for some improvement. 3. The two chief causes of death are hemorrhage and inflammation of the pleura or pericardium. Probably nearly everything possible has been done to prevent hemorrhage, but since more than half the patients who survive over twenty-four hours become infected, there is room for great improvement in this respect. 4. To prevent this, besides the observance of strict asepsis, the question of opening the pleura and the drainage of the pleura and pericardium must be considered of the greatest importance. 5. As a rule, therefore, the pericardium and pleura should not be drained. The article is illustrated.

DIAGNOSIS AND LOCATION OF APPENDICAL ABSCESSSES.

Cassius Rogers of Chicago gives his experiences with appendicitis, with fourteen illustrative cases. He gives a resume of the anatomy and development of the appendix. The appendix may occupy a great variety of positions, and may be partially extraperitoneal. In the variety in which the symptoms are severe the process is rapidly suppurative, while when it is slower and less acute it is more liable to be followed by gangrene. If an abscess forms after an omental tumor has formed around the appendix general peritonitis is not apt to follow, since the appendix is walled off from the general peritoneal cavity. The cause may come from within or without; if from without it is due to adhesions to the surrounding structures; if from within, it may be intestinal disturbances, foreign bodies, gall stones, enteroliths, or other conditions with or without infection. The acute suppurative form comes on after catarrhal attacks and infection. The treatment of the suppurative variety is always surgical and should be undertaken as soon as the diagnosis has

been made. Tuberculous appendicitis is seldom primary; it should be operated upon.—*Medical Record*, July 10, 1909.

BURYING THE APPENDIX.

H. P. JACK, Canisteo, N. Y., (*Journal A. M. A.*, March 13), objects to simple ligation of the appendix in cases in which drainage is not employed and quotes from Murat Willis in regard to the occurrence of accidents. Willis received accounts of bad results in 23 out of 105 answers to inquiries, from prominent surgeons of whom he asked their experience, and reported two cases himself, one a fatal one, the ligature having been blown off and the fecal contents escaping. He also finds the purse-string suture method has its inconveniences though its results are excellent. He offers the following method as much simpler and equally efficient: "First, a good strong intestinal silk or fine celluloid yarn is selected. A ligature is cut off about twelve inches in length and each end of this ligature is threaded into a fine intestinal needle. The needles are handed to an assistant, who is directed to hold one in each hand. Sufficient length of the doubled portion of the ligature is used by the operator to tie a firm knot about the base of the appendix one-fourth inch from the cecum, the knot being placed on the side opposite to the raw surface left after dissecting away the mesentery of the appendix. Now one needle grasped in a pair of forceps is made to catch the wall of the cecum on one side one-fourth inch from the base of appendix, opposite the knot tied around its base and piercing the intestine to the depth of its fibrous coat. The same procedure is gone through with on the opposite side of the appendix with the other needle. This suture is now tied. When the stump of the appendix becomes buried, neatly and completely, in the wall of the cecum, usually no further suture is necessary; but should there be a slight puckering of the wall of the appendix which does not completely cover the stump, one needle is made to puncture both sides of the cecal wall which projects above the stump and is then tied to the suture on the opposite side, thereby forming a single mattress suture in addition to the one first described. This will always result in a complete burial of the appendix stump. The ligature attached to the mesentery of the appendix has been left long in the beginning; one strand of this is now tied to the silk used in burying the stump; thereby bringing the mesentery as a cap over the buried stump. This,

it will be seen, results in a complete covering in of all raw surfaces." Jack has employed this method in his later cases with great satisfaction, and thinks that with it there is less postoperative pain on account of the lesser amount of intestinal wall employed. Its simplicity is also an advantage, as it shortens the time of the operation. The article is illustrated.

CEREBRAL SURGERY.

Certain principles in cerebral surgery are considered of special importance by HARVEY CUSHING, Baltimore (*Journal A. M. A.*, January 16), who first insists on the importance of a knowledge of the nervous system and its diseases on the part of the surgeon, and the need of his taking account of the functional as well as the actual structural abnormalities he has to treat. Often the relief of the functional element is more to be desired than the cure of the organic lesion. The special points of technic on which he lays stress are, first, the anesthesia—the complete shutting off of the anesthetist from the operative field, which he accomplishes by means of an arrangement of the operative sheets that completely cuts off the anesthetist, and he secures free respiration in the prone position by a special form of outrigger to the operative table. The continuous auscultation by the anesthetist of the cardiac and respiratory action is also provided for by a phonendoscope attached to the patient's chest by adhesive strips and connected with the anesthetist's ear by a device like the headgear of a telephone operator. This he considers especially important. The next thing mentioned is the subtemporal decompression trepanation as an early measure in case of possible brain tumor that can not be exactly localized. This is performed in a safe era, and is often of itself sufficient to relieve symptoms. If localizing signs appear later, the removal operation can be performed. While in tumors above the cerebellum lumbar drainage is invaluable. Cushing calls particular attention to the dangers of lumbar puncture in cases of subtentorial tumors, from forcing down the brain substance into the spinal canal. The possibility of an unsuspected cerebellar growth, he thinks, should always be kept in mind, and the puncture not made unless the dura is exposed and ready for immediate opening in case medullary symptoms supervene. This leads him to speak of the value of a bilateral opening with wide exposure in other cases of growths difficult of access, which is also useful in preventing

compression or mutilation of cerebral tissue in operation. In the older high operations for removal of the Gasserian ganglion, there was also much of compression and contusion of the temporal lobe, although no tumor was already compressing the brain, and Cushing gives special cautions for this procedure. He is able to report seventy-four operations with only two deaths, and he prefers the simple evulsion from the pons of the sensory root alone, leaving the ganglion in its bed with a half-inch gap between its hinder border and the original pontine attachment, a gap he thinks not likely to be bridged, even admitting the possibility of a central regeneration.

KIDNEY DECAPSULATION.

The Journal A. M. A., January 16, publishes a report on kidney decapsulation for chronic nephritis, prepared by the late Dr. G. M. EDEBOHLS, and read for him by Dr. Samuel G. Lloyd. This operation is advised for every sufferer who has reasonable expectation of not less than a month of life without operation. The three conditions given are: First, the clear and unequivocal establishment of the diagnosis; second, the absence in a given case of absolute contraindications to any operation; third, the possibility of securing the services of a surgeon practically familiar with the surgery of the kidney. The earlier in the disease the operation is performed the better the chances for a cure. Advanced age, is not a contraindication if the patient is otherwise in reasonably fair condition. Hypertrophy of the heart must be considered, and as long as the enlargement is not due to dilatation and as long as the hypertrophy is concentric an anesthetic may be safely used. It is only when dilatation dominates over hypertrophy that the danger of sudden death is ever present, and the most ominous auscultatory sign is insufficiency of the aortic valves as shown by an intermittent aortic regurgitant murmur occurring every third, fourth or fifth beat, or even less frequently. If this is present and can not be removed by medication, operation is inadvisable. In recent years Edebohls observed marked improvement in cardiac conditions in a number of patients after operation. Albuminuric retinitis must be carefully considered in deciding for or against renal decapsulation. Its importance is due to its being a late sign of the disease, and in recent years he was led by his experience to decline operating when it was well marked. His experience with renal redecapsulation was not

very encouraging, and the only condition in which it is advised is in a new chronic nephritis starting up after the former one had been entirely cured. He was able to follow up 99 of the 102 patients operated on by him, an average of five years to each, and an elaborate summary of the whole is given. Ten deaths were chargeable to the operation, though this is not positively correct, since all the 10 patients were practically within a few weeks, if not days, of death by the disease. These cases are offset by at least 12 others in which the patients were snatched from impending death by the operation. Thirty-nine deaths occurred at periods remote from the operation, and in none of these was it a factor. Only 11 of these 30 patients were not benefited and in them the operation did no harm. Six of the survivors are classed as non-improved, but this is not absolutely correct, as 5 of the 6 are better in general health than before the operation. Of 11 classed as improved, the betterment has been continuous since the operation and 3 appear to be on the eve of restoration. The 33 cures of chronic Bright's disease from the operation would, it is stated, justify all the work which has been done, even if no benefit had accrued to the remainder of his patients. It is worth noting that 14 of the 102 patients were physicians and 5 others were members of physicians' families, thus showing their confidence in the operation.

CHOLECYSTECTOMY VS. CHOLECYSTOTOMY.

John F. Erdmann of New York considers cases carefully before performing cholecystectomy for reasons of surgical convenience. If it becomes necessary to do a secondary operation the dissection of adhesions is most difficult. Cholecystotomy has its secondary operative aspects also, viz., the possibility of re-infection and reformation of stone. The question of which operation to do arises chiefly in cases of chronic affections of the gall-bladder when the gall-bladder is atrophied, thickened, calcareous, or when the cystic duct has been occluded, resulting in hydrops of the gall-bladder. In acute cases with gangrenous bladder the organ must be removed at once. In grave conditions with infection present but only thickened gall-bladder the contents are removed. If the condition is not grave and there is plenty of time cholecystectomy is done. Calcareous degeneration calls for cholecystectomy. Ulcerated gall-bladders and acute attacks of chronic cholecystitis call for radical operation. In malignant

cases the abdomen should be closed without removal. Out of one hundred operations on the gall-bladder cholecystotomy was done twenty-five times, cholecystotomy with choledochotomy once. Cholecystectomy was done fifty-one times with one death, and cholecystectomy with choledochotomy nineteen times with four deaths.—*Medical Record*, February 13, 1909.

ADEQUATE DRAINAGE THE ESSENTIAL STEP IN THE SUCCESSFUL SURGERY OF BRAIN ABSCESES.

Fred Whiting of New York says that the question of the after treatment of brain abscess is important. Many a brilliant operation is spoiled by the failure of the after treatment. Infected tracts are produced by laceration of brain substance in attempts at introduction of gauze into the cavity. The author has originated an instrument called the encephaloscope, by which the interior of the abscess cavity may be inspected and drainage introduced by sight. The first step should be to evacuate completely all pus from the cavity. Adhesions of the walls of the cavity may cause pus to be dammed up in the lower part of the cavity. The author believes it a bad practice to introduce forceps or the finger into the cavity to separate the walls. Irrigation is also bad for such a soft substance as brain tissue. With the encephaloscope the cavity may be quickly cleared of all macroscopic infective material. In judiciously selected cases the ennetting of the cavity to remove the lining membrane is allowable. In small superficial abscesses there is little choice between gauze and tubular drains. The author has supplanted all other drains by sterilized or iodoform gauze. In acute abscesses only a very small wick of gauze is needed. In chronic abscess the sloughing of the lining membrane is slow and quantities of pus will come away. Sufficient iodoform gauze is introduced to distend the cavity, and it must be changed daily until all fetor is over. When there is no recognizable discharge, drainage may be discontinued. Gratuitous infection of healthy tissue by misdirected efforts at introduction of gauze must be avoided.—*Medical Record*, January 23, 1909.

DISLOCATION OF THE ASTRAGALUS.

W. H. LUCKETT, New York (*Journal A. M. A.*, January 23), reports a case of dislocation of the astragalus reduced by an

operation successfully, without removal of the bone. The radiographs accompanying the report show the nature of the injury. There was apparently no complicating fracture, but there was a history of two distinct injuries, the second one of which was positively that of a rotating force. The joint was wholly destroyed, the vessels and nerves torn, the ligaments and articulating brusæ ruptured, and the first intention was to make an astragalectomy, as it seemed impossible that the joint could be saved. The condition of things, however, was found so favorable after opening the joint and the reduction of the dislocation was accomplished so easily after subcutaneous tenotomy of the tendo Achilles, that it was decided to attempt to save the bone, with the results reported. The general surgical opinion seems to be that removal of the bone in these cases is advisable, but the good results in this case will probably invite a repetition of the same procedure in others.

CRANIAL TECHNIC.

F. HARTLEY, New York (*Journal A. M. A.*, January 9), enumerates the following as the prime requisites for avoiding the dangers of shock and sepsis in operations on the brain: 1. Instruments which will open the skull quickly over any desired area and to any extent. These are the motor, saw and guard, osteotome, drill, fraise and measure. 2. A method of cranio-cerebral topography permitting accurate exposure of the desired area. Chipault's is the best method, adapted to the skull of all ages, races or individual peculiarities. 3. Osteoplastic flaps cut so that they will expose the desired area in the easiest manner. 4. The replacing of the bone flap in every possible case or the covering the defect with an accurately fitting foreign material (celluloid or aluminum). He prefers autoplasty when possible. 5. The most perfect hemostasis in the preliminary as well as the final steps of the operation. The operation he divides into two steps, the first concerned only with the skull, the final with the dura and brain. All drugs should be given up several days before operating, and a record of pulse rate and blood pressure should be taken twenty-four hours before operation. The patient's head is raised on the table between 15 and 30 degrees, which Hartley has found sufficient to stop venous bleeding and lower arterial pressure. He has not been able to compare the

effects of Crile's rubber suit and carotid compression or of Dawbarn's sequestration-anemia with this, but if they will improve the artery pressure better than elevation and with no greater danger of inducing sudden syncope, he will certainly use them. During the operation he would have the blood pressure recorded by the anesthetist by a sphygmomanometer on the arm, as a sudden fall will warn the operator of any impending sudden collapse, and will probably enable us to avoid the 25 per cent. of sudden deaths following prolonged operations. The details of the two steps of the operation are given and the necessity of careful hemostasis during the second stage emphasized, as well as the importance of avoiding infection of the lateral ventricles. Possible later complications are: 1. Shock, in prolonged operations with hemorrhage or after large tumors have been removed and the cerebral statics disturbed by the space left. In such case the acute cerebral edema of von Bergmann occurs. To avoid this Hartley tampons and gives counter-pressure through the flap. 2. Hyperpyrexia: This occurs after both severe and moderate handling of the brain, especially if the ventricles have been opened, and is due to toxicity of the neoplasm secretion, infection or irritation of thermic centers in the bulb. 3. Encephalomeningitis may be due to injury or to infection from the patient's blood or without. It usually appears during the first month after operation, coming on slowly with localized convulsions, contractures, paralyses, somnolence, mental torpor or delirium. 4. Hernia may be present at the time of operation as a tumor of the base or as a voluminous tumor of the centrum ovale, or at a later period in the form of encephalitis. The latter part of the article is given to the recently reported results.

CONSERVATISM IN SURGERY.

J. E. MOORE, Minneapolis (*Journal A. M. A.*, March 20), objects to conservatism as out of date in surgery, but thinks it is still too much in evidence. Some cases of empyema are still being treated medically or with the aspirator; tumors of the breast are often neglected, in spite of the fact that 80 per cent of them are malignant; appendicitis is still being trifled with and typhoid and other intestinal perforations are commonly neglected till the last chance is lost. When conservatism was the rule the mortality rate from bowel obstruction was 95 per cent;

this has been reduced to 45 per cent by progressive surgeons and could be still further reduced if the habit of waiting could be overcome. In female pelvic diseases the radicals long since replaced the conservatives, and are now being themselves, gradually, but surely, displaced by the progressive surgeons. Prostatectomy is not yet on a proper footing, and many patients with gallstones are still being treated for dyspepsia. While the cause of cancer is still unknown, we know that the mortality rate, except in a few superficial cases, is 100 per cent, when treated conservatively. We also know that surgery does save a certain percentage with early diagnosis and operation; the cases in which relief is given by the X-ray, radium and caustics do not justify dependence on these agents in cases of extensive malignancy. In at least 75 per cent of the cases of bone and joint tuberculosis the tendency is toward self-limitation of the disease and ultimate recovery and deformity, and here the conservative aids Nature and relieves suffering and prevents deformity by mechanical appliances. Still he often fails to obtain the best results by his conservatism, drags out the treatment for months when a little surgery would overcome the difficulty at once, and frequently allows the patient to go from bad to worse and die of exhaustion, when a timely erosion, excision or amputation would have restored him to health. If the conservative is to be criticised for his sins of omission the radical operator is to be still more condemned. The former is not a surgeon in the common acceptance of the term, while the latter is classed as one because he is always operating. He classes every operation from which the patient recovers, as successful, regardless of whether any good has been accomplished, often performs unwarrantable and unnecessary operations or fails to relieve on account of his inability to recognize the existing pathologic conditions. The radical, for want of surgical training and judgment, is often not radical in his methods. He is very apt, for example, to remove stones from the gall bladder and leave those in the common duct, take away the prominent portion of a malignant tumor and leave outlying portions and neighboring lymphatic glands. Moore enumerates other instances of sins against good surgery by too radical operators, such as the discrediting of gastroenterostomy by useless operations and the still too frequent unnecessary gynecologic operations, removals of the appendix, etc. He believes that unless the medical profession is out-spoken in denouncing the

evils of which he speaks the laity will condemn the whole for the sins of the few and be liable to pass drastic legislation that will overshoot the mark and be a serious handicap to legitimate surgery. We should therefore give the matter serious consideration, and the question is, shall we control the evil by legislation or education. The present tendency is to control everything by legislation, and Moore thinks that laws requiring a definite amount of experience as hospital interne or assistant before license to perform major operations is extended would be helpful and would come better from within than from without the profession. It would be better, though, to secure the desired end by making the necessary training a part of the college course. Every medical college now requires so much laboratory work that it takes half a student's time, leaving him very little more time to study the practice of medicine than he had when the requirements for graduation was but two years. Life is too short to spend much more for theoretical training than is now required in our high grade institutions, but the student can well afford to take the time for practical experience, and it should be made obligatory. In conclusion, he mentions the education of the medical student in ethics, and says that our medical organization should be so perfected as to exclude commercialism from the profession, so that anyone who makes merchandise of his patrons can no longer be recognized as respectable. We should teach our students practical ethics, following the golden rule, which always has been and always will be practical.

THE SURGERY OF SYPHILIS.

G. F. LYDSTON, Chicago (*Journal A. M. A.*, February 20), emphasizes the fact that many practitioners treat syphilis too specifically and that in many cases radical surgical measures are the primary indication, specific medication taking almost a secondary position. The initial lesion rarely requires the knife, save in case the duration is very persistent and defies specific treatment for a long period. Here a clean excision is sometimes of great advantage, and the more thoroughly the patient has been previously treated with mercurials, the less chance of a recurrence. The most frequent call for surgery in primary syphilis is in hidden chancre or mixed sore with phimosis. He has long since given up all hesitation in such cases, the chances of wound

infection being almost negligible as compared with those of allowing the lesion to progress without diagnosis or proper treatment. In his own experience he has never had occasion to regret making a dorsal incision of the prepuce for the purpose of freeing the glands and inspecting and treating the concealed lesion. Marked edema occurring with chancre sometimes demands multiple punctures, and this is preferable in persistent cases to permitting the edema to be followed by connective tissue hyperpalsia calling for the knife later. In mixed sores and superadded pus infections in true chancre, abscesses may occur in the course of the lymphatics of the penis, which, of course, calls for incision. It is hardly necessary to say that the syphilitic bubo, *per se*, needs no surgery, but when there is chancroidal or tuberculous infection the knife is called for. Lydston here pleads for thorough extirpation of the glands in such cases; halfway measures are not effective, according to his experience. The surgery of secondary syphilis is still more limited. Induration after edema may call for it and obstinate mucous patches and ulcers may do well under light curettement. Various conditions of the jaws and teeth have an important relation to these lesions and call for surgical treatment. It is in late uncured syphilis that surgery becomes of more and more importance in the treatment. The same indurating edema noticed above is often encountered in broken-down subjects of tertiary syphilis. Extensive tumors about the genitals may thus result and may persist long after the luetic infection is under control, and should be dealt with just as any other new growth would be. The mistake is often made of trying to cause their disappearance by specific treatment; they are no longer syphilitic, but are merely the results of syphilis. Gumma in certain situations should be treated surgically more frequently than is the custom. Lydston holds that obstinate gumma of the brain, resisting internal medication, and when accurate localization is possible, is one of these conditions. The same is true of stubborn gummy ulcers which are likely to heal after the indurated base is cut away, always provided that the constitutional treatment has been judiciously carried out. Syphilitic bone disease is the cause of more barbarous specific overdosing than any other lesion occurring in syphilis, and many cases of caries and necrosis are the result. Mercury and iodid must, of course, be the mainstay in the constitutional treatment, but the local condition must be treated on its merits as if it were

due to other causes than syphilis. Lastly Lydston calls attention to the frequency with which gummata and obstinate ulcers of the tongue are replaced by malignant disease. In such cases the diagnosis is often delayed and the patient continues to be dosed with iodid and mercury to his damage. Lydston has observed a large number of such cases in which the opportunity for the cure of the disease by surgery has been lost. He thinks that the profession as a whole, is woefully unobserving in this class of cases. He has, he says, arrived at the point where, when the microscope is guessing, he is perfectly willing to hazard his reputation by playing the only surgical trump at his command and removing the tongue. Operations on syphilitic patients, he says, in whom the constitutional disease is under fair control by specific medication, are likely to result in primary union of the wound just as though syphilis did not exist. In clean aseptic incised wounds repair will occur quite as rapidly as in non-syphilitic subjects. In open wounds, or in chronic non-specific lesions occurring in syphilitics, where irritation is marked and persistent, the syphilitic constitution undoubtedly delays repair, and the rational use of mercury and iodids is an indispensable adjuvant.

REMOVAL OF ARTERIAL OBSTRUCTION.

An interesting case is reported by J. B. MURPHY, Chicago (*Journal A. M. A.*, May 22, 1909), in which he removed an embolus from the common iliac artery which had completely obstructed the circulation in the left leg. The patient was a woman of 41, who after an attack of rheumatism suffered from shortness of breath and heart disease was diagnosed. Three years after the last rheumatic attack on April 5, 1909, she was seized with a sharp pain in the lower part of the left chest and upper abdomen which was considered pleuritic and treated accordingly. The next morning she was taken with an attack of nausea and vomiting, followed by pain in both legs which became cold and remained so till the morning following, when the pain in the right leg ceased and it regained its normal temperature, the left leg remained cold, was blue in the thigh and very pale and shriveled at the toes. It was cold to half way between the knee and the trunk and there were large blue blebs scattered over the middle third of the thigh. On admittance at Mercy Hospital, Chicago, careful examination showed that the patient had a mitral, direct and regurgitant murmur. There was no pulsation

in the left femoral artery. The upper margin of the area of the demarcation was then about four inches below Pourpart's ligament. The limb was under going dry gangrene from arterial obstruction and it was decided to operate at once to remove the embolus which was diagnosed as obstructing the iliac artery. Nitrous oxid was given for thirty seconds and an incision four inches long was made downward from an inch above Pourpart's ligament parallel to the femoral artery which was exposed for a length of two and a half inches. Two provisional catgut ligatures were put around it, but not tied, so as to aid in elevating the artery, which was then incised for one inch parallel to its long axis. It was completely thrombosed. With a delicate forceps the clot (a bifurcated plug an inch and a half long) was drawn from below upward, causing a flow of fresh arterial blood, evidently collateral, through the femoral profundus. This was stopped by finger pressure and the extraction of the clot from the proximal side was begun but the artery did not empty at once. A spoon was then used and more clot withdrawn, but no flow. A number six soft catheter was passed up the artery a distance of seven and a half inches bringing away grumous body debris but no arterial blood. It was reintroduced but could not be forced through an obstruction at that point. Finally by the use of a ureteral catheter passed up nineteen inches, a small quantity of arterial blood was released. Then a uterine sound was employed and on the third attempt it seemed to penetrate a free space at a distance of eight and a half inches and was followed by an intense arterial flow carrying much embolic debris. This was stopped by finger pressure in the ligature loop and the incision in the artery was closed with a rapid continuous suture of silk. One or two additional supporting stitches were inserted to control the hemorrhage completely. Unfortunately, the operation was made too late to save the limb, and it was amputated four days later. Murphy remarks on the symptoms of occlusion of large arteries and refers to his own former experience since he first made a successful end-to-end union of a severed femoral artery. The suture of an incision in an artery is as easy as an incision of the intestine, provided a sufficiently small needle is used. He believes that even cerebral ischemia should be amenable when due to an embolus arrested in the common or internal carotid. He thinks, however, that aspiration through a catheter is better than the method he employed in removing the plug, for if the catheter is

divided on the slant with the end open it can be readily introduced and unless the embolus is very hard it can be removed by suction or fragmented by the catheter. Murphy does not advise incision into the exact site of the obstruction as there would be less tendency to thrombosis if the point selected is above or below, preferably the later. As in other types of emergency surgery the operation must be done early to be successful. This applies especially to the cerebral ischemias. The removal of an embolus from the pulmonary artery by Trendelenburg though unsuccessful is worthy of special mention.

TUBERCULOUS JOINTS.

H. J. WHITACRE, Cincinnati (*Journal A. M. A.*, May 1), says that we must conclude that there is no one correct line of treatment for tuberculous joint disease, but that the method selected must depend on the nature and stage of the lesion, the age and social position of the patient, facilities for treatment, the individual experience of the physician in charge, and a combination of all available methods is sometimes called for. Rest, diet, favorable hygienic conditions, Bier's hyperemia, iodoform injections, vaccine therapy and cutting operations all have their place and may all be used in various combinations. He details in full the technic used by him in tuberculosis of the joints, including 13 cases in the knee, 7 in the ankle, 3 in the elbow, 1 in the wrist and 1 in the hip, 25 in all. His methods may be stated in a general way to consist in free opening of the joint. In the knee by transverse incision across the center of the patella, sawing through that bone and excising all tuberculous infected tissues in the synovial cavities and the bone, going down to healthy tissues and filling any cavities left with iodoform mass after thorough cleansing with carbolic acid subsequently neutralized by alcohol. Decision as to the amount of bone involvement in these cases is a heavy responsibility and should not be made until a careful microscope study has insured its accuracy. The end of a bone must be seriously damaged before he would justify its removal. The preservation of a limb of normal length is considered by him a very important point. Drainage is used by him

for six or seven days, the limb is put in a supporting splint which is removed in from three to five weeks. Bony union is slow and may not be complete for eight or twelve weeks after the operation. The after treatment is the same in case of the knee, akle joint and wrist, though the details of the operation are, of course, modified by the needs of the case, and the passive exercise is begun a little earlier in the wrist, about three weeks after the operation. A complete analysis of the 25 cases is given. There were no fatalities, 12 patients are now completely cured, 2 have still a small sinus remaining with good function, 1 was lost sight of, there were 3 subsequent amputations, and in the remainder sufficient time has not elapsed to justify a final report.

THYROID PRESSURE ATROPHY.

After summarizing all our present knowledge of the anatomy, embryology, histology, chemistry, physiologic functions, and pathology of the thyroid gland, A. WERELIUS, Chicago (*Journal A. M. A.*, July 17), discusses the symptoms and treatments of the different forms of goiter. He found that dogs were specially subject to this disease, and performed a series of experiments to test the effects of ligating the thyroid gland with a purse string suture in 35 dogs. He also reports one case in which a similar operation was made on a human patient, giving in detail the blood findings after the operation. The late results of the operation are not yet reported, but the immediate results were very satisfactory. He summarizes his findings, as adduced from the literature, substantially as follows: In spite of the enormous amount of work that has been done on the gland, we are still in the outer trenches of the thyroid citadel, and the whole subject is still a mysterious labyrinth of opposing factors. The thyroid is essential to the well-being of the organism but is not indispensable to life. The gland contains iodine and its removal causes marked metabolic disturbances. Tetany is not caused by its removal. Iodine seems to have some relation to its physiologic activity and iodothyron may contain the active principle, and there is pos-

sibly an internal secretion. The gland may have some action on the cardiovascular system and it may have a detoxicating function. It may also have some relation to other ductless glands but it is seemingly independent of the parathyroid. Graves' disease is probably due to hypersecretion of the gland as symptoms resembling it have been produced by overdosing the system with thyroid products. Transplantation has so far been unsatisfactory. The blood picture in Graves' disease may be pathognomonic and also prognostically significant. A great deal of splendid research work is being done in this country. The conclusions drawn from his own work are thus summarized: "1. The thyroid gland of dogs may be caused to atrophy by the method described above. 2. The gland which is not operated on also becomes reduced in size in the majority of cases (probably in all). 3. Goiter lymph in dogs probably has some special importance. 4. Some of the goiter dogs exhibit the pathologic picture of Graves' disease in man, and at the same time the symptomatic phenomena of human myxedema. 5. A high percentage of Chicago stray dogs have goiter (43 per cent, probably more). 6. Goiter dogs are very susceptible to anesthesia. 7. The operation may be done in the human being without disturbing the gland in its bed. So far I make absolutely no claim as to the utility of the operation in the human being, but I can not help but think that, in desperate cases, this quick tying of the vessel with an additional purse-string suture will pave the way for a more radical operation later, if that should be necessary." The technic of the above referred to operation consists of the introduction of one or more purse-string sutures along the periphery of the gland with subsequent tightening of these ligatures after preliminary tying of the vessels. The purse-string ligature is applied by sewing through the capsule and deep into the parenchyma, carefully avoiding the superficial vessels. In the operation on the human subject this was done without removing the gland from its bed. A curved non-cutting needle with No. 3 chromicized catgut was employed in this experimental work. The article is illustrated.

CRANIAL SURGERY.

C. H. FRAZIER, Philadelphia (*Journal A. M. A.*, June 5), says that too much attention has hitherto been given to the mere operative technic. First taking up the subject of trigeminal surgery, he says that in no other operation on the central nervous system has a greater degree of perfection been reached or more satisfactory results been obtained. He rejects the less radical procedures as not ensuring against recurrence and says that the element of danger does not justify at present the apprehension which still lingers in the minds of the profession. In his own series of 23 cases he has only lost one patient, the sixth, and he has had no fatalities since 1905. He mentions the principal points of the technic and says that the final step is the one that has provoked the most discussion. He himself performed the first operation, designedly dealing only with the sensory root at Spiller's suggestion in 1907, and since then has modified his technic only in exceptional cases. Division or avulsion of the sensory root insures as positively against the recurrence of neuralgic attacks as does appendectomy against future appendicitis. He speaks next of the changes in our ideas as regards cerebral concussion and contusion and of the blood pressure effects of cerebral trauma. He has found from repeated observations that papilledema, the pathogenesis of which is perplexing, is of little importance as a means of diagnosis or a guide to treatment. The third point to which he refers is the decompressive operation and its application in serious contusion of the brain. As so many cases recover, routine surgical intervention is unjustifiable, and he divides the cases into three groups, so far as the question of surgery is concerned: 1. Those in which damage to the brain is so great that they are necessarily fatal. 2. Those in which the symptoms at no time seem to threaten life, the patient may be unconscious for several days and then recover, perhaps with paralysis which can be located and relieved. In this case, decompression operations are unnecessary. 3. Those in which, though at first apparently not desperate, the patient's condition becomes progressively more serious. These are the cases in which decompression op-

erations should be considered as lifesaving. It remains to be decided whether the operation should be done in the temporal or subtentorial regions. Theoretically, the latter would be best, as nearest the vital centers. It is needless to say that when undertaken the operation should be performed without an anesthetic and as rapidly as possible. A skilled anesthetizer is always necessary when an anesthetic is used, and there should also be an assistant to observe and record the blood pressure at frequent intervals. With these precautions we can be sure that the condition of the patient is being carefully watched. For controlling hemorrhage Frazier has come to the conclusion that the old-fashioned Petit's tourniquet is most satisfactory. The technic of the osteoplastic flap is now nearly perfected. Speaking of operable and inoperable tumors, Frazier says that the operation has generally been postponed so long that there are a few cases that are practically operable. An operable tumor must be accessible, that is, near the cortex and sufficiently well-defined to enable one to determine its limitations. The inoperable is a deep-seated or infiltrating growth. He lays down certain rules for the surgery of the posterior fossa. Condensed as far as possible, they are as follows: 1. Generally speaking, exploratory and decompressive operations in the posterior fossa are more risky to the patient than those in any other part of the brain. A certain percentage of patients will die under the operation or later, or even when convalescence seems established. 2. If, after exploration, attempt is made to remove the tumor, the risks are increased, so much so that, if the tumor is malignant or adherent, he considers the attempt unjustifiable. There may be instances, of course, of encapsulated types of fibrosarcoma or, of course, in the benign fibroma of the auditory nerve, when removal is feasible and may be curative. 3. The great majority of tumors are situated in the pontile angle. He has seen but one situated elsewhere. While skeptical as to the operability of tumors in this region, he is optimistic as regards decompressive operations. 5. Lumbar puncture, either for diagnosis or as a therapeutic measure, should never be resorted to. The number of fatalities from this pro-

cedure are enough to make it absolutely prohibited. He gives some details as regards the technic of subtentorial operations at some length. In the great majority of cases palliation is all that the surgeon can offer, but palliation in case of brain tumor means a great deal more than it usually implies when the term is used; it means restoration or preservation of vision and relief from headache and vomiting, three symptoms which make the patient's life unendurable. The operation has a wide application and should not be reserved for tumors only. In his experience he has found that in the majority of cases exploratory operations have been made before decompression, and generally speaking he wishes to enter a plea against resorting to decompression before searching for the tumor. It is needless, he says, to emphasize the importance of early operation when localization is difficult or impossible. Such delay may result in loss of vision. While the propriety of resorting to decompression in advanced cases, when the patient is already in a stupor, may be questioned, as a rule the effects of decompression are so beneficial that its propriety should not be doubted if there is reasonable hope of the patient surviving the ordeal. There are exceptions, however, to this rule. The term decompression implies not simple trephining, but the removal of a considerable portion of bone on one or both sides of the cranium, together with the removal of the dura or the making of a crural incision therein. The expectancy of life, if only for a year be added by the operation, is of little value, but more may be expected. The use of decompression in other conditions than tumor has already been referred to, and Frazier, in concluding, mentions his experience with the operation for epilepsy and says that, while it is not time to speak of results, he has always found that in the so-called idiopathic type, without a suggestion of a focal lesion, there was, in a large percentage of cases, some gross pathologic condition.

THE PANCREAS IN DIABETES MELLITUS.

Since the publication of the experimental work of von Mering and Minkowski, in 1889, and that of Opie, in 1900, the chief interest in the pathological anatomy

of diabetes mellitus has centered in the lesions of the pancreas, which, as is well known, consist of changes in the bodies of Langerhans. A recent contribution to the literature of this subject is an excellent paper in the *Journal of Experimental Medicine* for March, by Dr. Russell L. Cecil. The author describes the changes in the pancreas in ninety cases of diabetes which came to autopsy. Seventy-one per cent showed a definite chronic interacinar pancreatitis. The distribution of the new connective tissue was found to be irregular in the majority of the cases. In four cases of diabetes occurring in patients under twenty years of age, this interacinar pancreatitis was absent. In the glands removed from patients between the ages of twenty and thirty years the lesion was met with in only about twenty-five per cent, but after the age of thirty it was the rule. Eighty per cent of the cases showed decided sclerosis of the arteries of the pancreas and many of them showed hyaline degeneration in addition.

The author points out that, both clinically and experimentally, cases are constantly encountered which give no evidence of a disturbance of the carbohydrate metabolism, although histologically the pancreas shows extensive destruction of the glandular acini. Compression and atrophy were the most common changes in the glandular tissue, according to the results of the author's study, in association with chronic interacinar pancreatitis. Fibrosis was the most common change shown in the islands of Langerhans in eighty per cent of the cases. The fibrosis was moderate in forty cases and advanced in thirty-six. Hyaline degeneration was seen in twenty-seven, well marked leucocytic infiltration in nine, and hypertrophy of the bodies of Langerhans in seven, in two of which there was also adenoma of the thyroid body, and in another adenoma of the pituitary body. In twenty cases of the number of the bodies of Langerhans was diminished; five times in glands that appeared normal, and fifteen times in cases of chronic interacinar pancreatitis. In eleven cases the pancreas appeared normal. Cirrhosis of the liver was present in seven cases; in one case there was exophthalmic goitre; in two cases of cirrhosis

of the liver there was haemochromatosis; acromegaly was present in one case.

An interesting portion of the study is that which shows the duration of the disease when the various lesions already described were present. Cecil found that when there was hyaline degeneration of the islands of Langerhans the average duration of the disease was three years and a half (sixteen cases); when the bodies were sclerotic the average was three years and eleven months (forty-six cases); when the bodies were infiltrated with leucocytes the average was eleven months (six cases). The contribution is particularly valuable from the fact that such a large number of cases has been studied by a single observer, thus doing away with the "personal equation" in the interpretations of results found when a large number of cases is described by numerous authors, each contributing a few examples.—(*New York Medical Journal*, May 29, 1909.)

CANCER OF THE BREAST.

F. S. DENNIS, New York (*Journal A. M. A.*, May 22), thinks that a study of the cure of cancer of the breast from statistics only has created a false impression among surgeons, and had a depressing effect on the laity. He has therefore taken thirty-nine cases, the complete history of which is known to him from the time of operation until the present day, instead of taking up statistics of a large number of cases many of which are lost sight of, and comparatively few are accurately placed. He asks what constitutes a permanent cure, and concludes that the percentage of the returns of the disease after three years have lapsed, is so insignificant that it would be well to accept this standard, not only for the encouragement of the patient, which is itself no small matter, but also to have a fixed standard from which the case, from an operative as well as an optimistic point of view, can be judged. From his experience he feels certain that it is wise to operate in advanced cases unless the mediastinal glands are involved, or unless there is visceral metastasis or the growth is adherent to the chest wall. He has been astonished by the favorable results after operation in what were apparently hopeless cases, and thinks it often right to give the patient the benefit of

the doubt. Three of his thirty-nine cases were of this character. Of course the early and radical operation is of paramount importance, but what constitutes a radical operation is somewhat indistinct. Surgeons agree that all skin over the affected area should be sacrificed. The breast, with Sir Astley Cooper's ligaments, should be entirely removed, the pectoral fascia and muscles should be excised, the axillary glands, the perimammary and retromammary fat, likewise the paramammary areolar tissue should be dissected out as the minimum operation. "If the cancer involves the ribs, perforates the thoracic wall, and has already infected the mediastinal glands, no operation, however radical, would be attended with any success. The same rule may also apply to that form of cancer termed *en cuirasse*, or *en plaques*, or acute miliary carcinoma. I am firmly convinced that any radical operation, more than has been described, will be of no avail." The element of time required for operating is also to be considered. A long operation is to be avoided if possible. In his own successful cases, in which no return has occurred, the patients were almost without exception operated on within six months from the first appearance of the disease. Diagnosis as early as this is often uncertain, but Dennis has adopted a rule that all nodules or tumors in the breast in a woman, at the time or near to, or after the menopause, especially with depressed nipple and skin dimpling, should be operated on by complete ablation of the breast. In the great majority of cases in which a nodule or tumor is felt, it is almost certain to become malignant. In a young woman with an adenomatous growth, the question is more difficult, but he is still of the opinion that all adenomata in the young should be removed. In the case of very young girls, only the nodule itself need be excised and examined, and if then found undergoing malignant change, the entire breast should be removed by a radical operation. In case of chronic mastitis in a woman over forty, if pain is a constant factor and the interstitial induration is marked, the breast should be removed to prevent the possibility of malignant change. In absolutely inoperable cases it is the surgeon's duty only to make the patient as comfortable as possible. Dennis thinks that the x-ray should not be used by one not an expert and the value of radium is not yet fully decided. The serum treatment of cancer of the breast is still *sub judice*.

U. S. PUBLIC HEALTH AND MARINE-HOSPITAL
SERVICE.

LIST OF CHANGES OF STATIONS AND DUTIES OF COMMISSION-
ED AND OTHER OFFICERS OF THE PUBLIC HEALTH AND
MARINE-HOSPITAL SERVICE FOR THE SEVEN DAYS
ENDED JULY 14, 1909.

Bailhache, P. H., Surgeon. Granted 3 months' leave of absence from August 1, 1909.

Gassaway, J. M., Surgeon. Directed to proceed to Tuckerton and Atlantic City, N. J., for the purpose of examining keepers and surfmen of the Life-Saving Service. July 12, 1909.

Guiteras, G. M., Surgeon. Directed to proceed to Austin and other points in Texas upon special temporary duty. July 3, 1909.

Wickes, H. W., Passed Assistant Surgeon. Granted 1 month's leave of absence from August 1, 1909.

Cumming, Hugh S., Passed Assistant Surgeon. Granted 1 month's leave of absence from August 1, 1909.

Clark, T., Passed Assistant Surgeon. Granted 30 days' leave of absence from August 16, 1909.

Bahrenburg, L. P. H., Passed Assistant Surgeon. Directed to proceed to Point Pleasant, N. J., for the purpose of examining keepers and surfmen of the Life-Saving Service. July 12, 1909. Granted 15 days' leave of absence from August 1, 1909.

Warren, B. S., Passed Assistant Surgeon. Granted 3 days' leave of absence from July 6, 1909.

Ebersole, R. E., Passed Assistant Surgeon. Granted 6 days' leave of absence from March 6, 1909. Paragraph 191, Service Regulations.

Roberts, Norman, Passed Assistant Surgeon. Directed to proceed to Ocean City, Md., and Clincoteague, Wachapreague, and Cape Charles City, Va., for the purpose of examining keepers and surfmen of the Life-Saving Service. July 12, 1909.

Mullan, Eugene H., Passed Assistant Surgeon. Granted 2 days' leave of absence from July 12, 1909.

Preble, Paul, Assistant Surgeon. Relieved from duty at Baltimore, Md., and directed to report at Bureau for

duty. July 8, 1909. Assigned for duty in charge of the Miscellaneous Division. July 13, 1909.

Hunt, Reid, Chief Division of Pharmacology, Hygienic Laboratory. Detailed to attend the Twelfth International Congress on Alcoholism to be held in London, July 18-24, 1909, and the Sixteenth International Medical Congress to be held in Budapest, Hungary, August 29—September 4, 1909. July 3, 1909.

Earl, F. D., Acting Assistant Surgeon. Granted 7 days' leave of absence from July 20, 1909.

Safford, M. V., Acting Assistant Surgeon. Granted 7 days' leave of absence from July 17, 1909. Paragraph 210, Service Regulations. Granted 3 days' leave of absence from July 15, 1909.

Schmitt, L. S., Acting Assistant Surgeon. Granted 30 days' leave of absence from July 2, 1909, without pay.

Storrs, Henry R., Acting Assistant Surgeon. Granted 4 days' leave of absence from July 20, 1909.

Tarbell, B. C., Acting Assistant Surgeon. Granted 30 days' leave of absence from August 1, 1909, with pay, and 14 days' leave of absence from August 31, 1909, without pay.

Weeks, Alanson, Acting Assistant Surgeon. Granted 30 days' leave of absence from July 10, 1909.

Weldon, Wm. A., Acting Assistant Surgeon. Granted 1 month's leave of absence from August 15, 1909.

APPOINTMENTS.

Dr. Walter R. Brinckerhoff, reinstated and appointed Assistant Director of the Leprosy Investigation Station at Molokai, T. H. July 7, 1909.

Dr. Harry T. Hollman, appointed an Acting Assistant Surgeon for duty at the Leprosy Investigation Station at Molokai, T. H. July 7, 1909.

Dr. H. B. Ross, appointed an Acting Assistant Surgeon for duty at Del Rio, Texas. July 9, 1909.

OFFICIAL:

WALTER WYMAN,

Surgeon-General.

THE MODERN TREATMENT OF HAY FEVER.

Whatever be the accepted views as to the pathology and etiology of hay fever, there is little difference of

opinion concerning its importance and the severity of its symptoms. An agent that is capable of controlling the catarrhal inflammation, allaying the violent paroxysms of sneezing and abundant lacrimation, cutting short the asthmatic attack when it becomes a part of the clinical ensemble, and, finally, sustaining the heart and thus preventing the great depression that usually accompanies or follows the attack—in short, an agent that is capable of meeting the principal indications—must prove invaluable in the treatment of this, by no means, tractable disease.

In the opinion of many physicians, the most serviceable agent is Adrenalin. While not a specific in the strict meaning of the word, Adrenalin meets the condition very effectually and secures for the patient a positive degree of comfort. It controls catarrhal inflammations as perhaps no other astringent can. It allays violent paroxysms of sneezing and profuse lacrimination by blanching the turbinal tissues and soothing the irritation of the nasal mucosa which gives rise to those symptoms. It reduces the severity of the asthmatic seizure, in many instances affording complete and lasting relief.

There are four forms in which Adrenalin is very successfully used in the treatment of hay fever. Solution Adrenalin Chloride, Adrenalin Inhalant, Adrenalin Ointment, and Adrenalin and Chloretone Ointment. The solution, first mentioned, should be diluted with four to ten times its volume of physiological salt solution and sprayed into the nares and pharynx. The inhalant is used in the same manner, except that it requires no dilution. The ointments are supplied in collapsible tubes with elongated nozzles, which render administration very simple and easy.

It is perhaps pertinent to mention in this connection, that Messrs. Parke, Davis & Co., have issued a very useful booklet on the subject of hay fever, containing practical chapters on the disease, indications for treatment, preventive measures, etc. Physicians will do well to write for this pamphlet, addressing the company at its home offices in Detroit or any of its numerous branches.

GOOD RESULTS IN STUB- BORN CASES.

Every physician knows full well the advantages to be derived from the use of antikamnia in very many diseases, but a number of them are still lacking a knowledge of the fact that antikamnia in combination with various remedies has a peculiarly happy effect. Particularly is this the case when combined with salol. Salol is a most valuable remedy in many affections and its usefulness seems to be enhanced by combining it with antikamnia. The rheumatoid conditions so often seen in various manifestations are wonderfully relieved by the use of this combination, and the painful stiffness of the joints which remains after a rheumatic attack are also relieved by "Antikamnia & Salol Tablets" containing 2½ grs. each of antikamnia and of salol and the dose of which is one or two every two or three hours. Salol neutralizes the uric acid and clears up the urine. The pain and burning of cystitis is relieved to a marked degree by the administration of these tablets. This remedy is also reliable in the treatment of diarrhoea, enterocolitis, dysentery, etc. In dysentery where there are bloody, slimy discharges, with tormina and tenesmus, a good dose of sulphate of magnesia, followed by two antikamnia and salol tablets every three hours will give results that are gratifying.



GLYCO- THYMOLINE FOR SUMMER COMPLAINTS

PROPHY LAXIS—The very nature of artificial foods and cow's milk predisposes to their rapid decomposition. A few drops of Glyco-Thymoline added to each feeding corrects acidity and prevents disorders of stomach and intestines.

TREATMENT—As an adjunct to your treatment of summer complaints, Glyco-Thymoline used internally and by enema corrects hyper-acid conditions, stops excessive fermentation and prevents auto intoxication. It is soothing—alkaline—nontoxic.

KRESS & OWEN COMPANY,
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INFLAMMATORY DIARRHEAS.

BY WILLIAM EDWARDS FITCH, M. D.,

LECTURE ON SURGERY, FORDHAM UNIVERSITY SCHOOL OF MEDICINE,
NEW YORK CITY.

In discussing this subject we will speak of inflammation of the small and large intestines as a single disease. And without taking up the reader's valuable time in discussing etiology or symptomatology we will proceed at once to consider the medical treatment. The first step in this direction is to thoroughly evacuate the intestinal contents, and for this purpose no drug or combination of remedies has in our hands given the satisfaction that calomel has. Usually for a child of two years three grains are ordered rubbed up with sugar of milk and made into three powders and one administered every hour until all are taken, after which an old fashioned dose of castor oil is given, which will produce several copious actions from the bowels. Then I order a high enema composed of the following: Glyco-Thymoline one part, lime water one part and distilled water two parts; about one pint of this solution is thrown well up into the bowel through a long rectal tube and allowed to remain until evacuated.

Experience has taught me that Glyco-Thymoline exerts a beneficial action over the inflamed intestinal mucous membrane. For a child under two years old I order thirty to forty drops in a tablespoonful of water, administered internally every four hours and have found that it acts as an intestinal antiseptic and astringent, not affecting the normal digestive juices. Glyco-Thymoline has a curative action when administered in catarrhal conditions of the bowels. It acts not only by lessening secretions, but also by retarding absorption of toxins and inhibiting septic organism, restoring the integrity of the intestinal mucous membrane. We know that the principal lesions in this class of intestinal disorder are located in the colon and that this part of the alimentary tract is the seat for the rapid absorption of poisonous toxins. When this idea first occurred to me I at once concluded that lavage of the bowel with an antiseptic (alkaline) solution was rational and would prove a valuable factor in the treatment of this class of enteric disorders. Lavage not only removes fecal accumulations and products of fermentation, but it clears the mucous membranes of the bowels, thereby promoting rapid healing. Another important point to be observed in the successful handling of these little patients is the dietetic management.

THE American Practitioner and News.

"NEC TENUI PENNÂ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else." —RUSKIN.

F. W. SAMUEL, A. M., M. D., SAMUEL BROWN HAYS, M. D.,
—Editors—

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PSYCHOTHERAPY.

DR. CURRAN POPE.

For years the world has known psychotherapy under a varying number of names. Ever since the first time man faced his fellowmen he began to exert his own personal influence upon those with whom he was brought in contact, and from that moment unto the present day psychotherapy, consciously or unconsciously, has been practised by every human being that he, or she, has come in contact with. At the start it was spoken of as magnetism—animal magnetism, and contention after contention was fought out along this line until, in 1775, Mesmer, a graduate of the University of Vienna, Austria, announced that he had discovered a special process of the laying-on of hands, or the impregnating of the body with fluid by which an individual could be brought under the influence or mesmerized—the name afterwards given to the process. He perfected his process to quite an extent but, meeting with the usual opposition that is characteristic of new means and measures, the faculty and physicians

of Vienna drove him from their city and, as the Parisian capital opened its arms to this new discovery, Mesmer proceeded to Paris where he instituted his process in the treatment of various maladies by mesmerism. At that time he built an immense tree, or box, from which lines went out which the patients would take hold of and, by means of suggestion, or by means of the fluid (as he described it) passing along these ropes or wires, the individual was brought under the influence. Later, Braid, an Englishman, of Birmingham, took up really the first scientific study of the influence of mind upon the mind and called it, for the first time, hypnotism, because of his observation that the phenomenon produced resembled sleep closely; therefore, he used the term hypnosis to convey the idea of an artificial sleep, produced by means of the action of the mentality of the physician upon the particular patient in hand.

What is psychotherapy? We may define this as the mental power by which one individual can produce an impression upon another individual. How is this accomplished? Through the intervention of the nervous system. It is nothing mystical; it is nothing hard to understand; they are facts that are well known and that are really simple of explanation. Hypnotism, or, as we know it to-day, psychotherapy, has not been understood and practised by physicians as closely as it should be—and I say this to the shame of the medical profession. It has ever been the strong point of the quack, the charlatan, the religious agitator and the religious cult. The consequence is that it has suffered greatly.

I take the position that we want the truth, the whole truth and nothing but the truth, no matter whom it hurts nor whom it strikes, and we want it even if we have to change religious beliefs. We want the truth, for the truth must ever be the foundation of progress. I do not believe that replacing a false religious belief by a true one is in any sense a blasphemous expression; on the contrary, I believe that all religions should seek the truth. I cannot for one moment believe that any religion would sanction the suggestion or belief that any human being, by the action of his own or some one other's mind, can

mend the broken fragments of a bone. I cannot believe that there is any foundation for the existence of such a false religious belief and, therefore, as I will have to deal considerably with the question of religion in connection with psychotherapy, I wish to place myself plainly on record as advocating the truth, the whole truth and nothing but the truth.

In order to grasp clearly the processes of the human mind, we must get away from our intangible, metaphysical groping in the dark; we must get right down to the plain every-day facts of truth, that mind is nothing more nor less than the action of matter. Without the presence of matter and without the action of matter, we can have no mind; in other words, mind is just as material as this which I strike here, and the moment you begin to grasp fully the fact that mental actions are material, just that soon will you begin to understand just what is this peculiar and somewhat subtle phenomena known as psychotherapeutics.

Matter possesses certain what we call inherent qualities. We do not know why the liver secretes only bile nor the stomach gastric juice, nor why glass is brittle and iron malleable—they are the inherent properties of matter, and it is the inherent property of brain and nerve tissue to create mind and convey impressions over the various nerve structures. Now, if you will kindly keep this in mind, we will start at the bottom and consider an infant just born. An infant just born has no mind. It has a collection of cerebral and spinal tissue with certain ganglia at the base of the brain that are capable of producing automatic actions necessary for the preservation of life but, as far as mind and brain are concerned, that infant has absolutely nothing. It is what the ancients called a "novus tabula," a new sheet—a new sheet upon which is to be written all the varying things that go to make up, eventually, mind. Now, how does this infant start to make its mind? It starts by gathering impressions, sensations; it begins by gathering sensations through the eye, through the ear, through the nose, through the taste, through touch—through all the varying sensations that the body possesses, and these sensations,

carried over the particular nerves, are registered upon the brain of that infant, just as the photographer reproduces upon his sensitized plate the subject in front of him. These sensations and impressions, coming in from the outside world through the various senses of the infant, are written upon its brain and there is the foundation of mind. When the sensations have been sufficiently developed so that the infant has stored a large range of them, then we can begin to notice the varying changes in feeling; in fact, feeling may begin almost coincidentally with the presence of sensations, and the child begins to express feeling in the shape of emotions, a description of which I cannot pause, in this brief lecture, to give, but gradually pleasure and happiness, joy and sorrow, exaltation and depression, are registered upon this little brain that is growing rapidly, and hourly—almost minutely—receiving impressions from the outside world. Now, after the infant has registered these sensations and with the beginning of the development of the emotions, he begins to arrange them and sort them and pigeon-hole them, putting this kind of a sensation in that pigeon-hole, and this kind of an emotion in that particular receptacle, and this labeling of the sensations, this tagging of them, is the beginning of intellect. As soon as we begin to arrange, classify and place our sensations or emotions into certain categories, or certain pigeon-holes, then we are beginning to use the higher order of the mind—the intellect. This is commonly known as thought. Now, with this development and registry of the sensations, with the development of thought and intellect, we find that there is being developed a peculiar power inherent in the brain or mind that enables one to control their actions; that is to say, there is developed within the mind what we know as will-power, volition. This will-power enables one to direct or control sensations and emotions and intellect, and it plays a very important part in the government of the developing individual. As sensation, emotion, intellect and will develop in the individual—whether the actions are harmonized or unharmonized—we find a certain peculiar condition, known as character. Thus, the character of an individual is the result of the action of all the

factors that I have just mentioned; namely: sensation, emotion, intellect and will-power.

If you will stop for one moment and think, you will see that the whole process of mind is a purely physical one, but it is a physical one only in its basis, at the bottom. All the bottom processes of the mind are physical, but the mind is really something that is not a part of the individual—it is simply a result of the action of the brain; in other words, a man's mind is not in his skull, inside the brain, but is simply the result of the physical action of the brain tissue after a certain amount of development has taken place. Where is it located? It is located on the surface of the brain in what we know as the gray matter, that is, millions and millions and millions of cells that are interposed in the line of entrance of the varying sensations, or at the point of exit along the lines of thought and action.

How do I know positively that this complex action that I have been describing to you is true? Let us look at the other side to prove what I have said. Let us suppose (as sometimes takes place) that the infant does not develop; that the sensations which come in from the various special senses and from the body are not registered upon the brain. What is the result? It is the sad spectacle we have presented to us of the idiot. If you will stop and reflect a moment you will see that, by viewing the reverse side, we can understand the process of commencement and termination of mental action.

Psychotherapy does not necessarily mean hypnotism. Hypnosis is one of the divisions of psychotherapy. It is not necessary for me to hypnotize any of you to practise psychotherapy upon you; I may do so without your being aware of it; in fact, any influence that I may bring to bear upon you is, in the true sense of the word, a psychic effect—speaking specifically in medicine, a psychotherapeutic effect. But, when we speak of hypnotism, we speak of the direct action of one mind upon another sufficiently strong to produce symptoms resembling sleep. This is hypnosis.

How can hypnosis be produced? Originally, Braid found that the best way to do so was to have the patient

sit in a chair in a comfortable position, with the eyes looking up at an object placed slightly above them. As a result of this, slight fatigue was noticed, and when the suggestion was made to the patient that he was going to sleep, gradual hypnosis was produced—or induced. The method usually employed in the present day, however, is not that of Braid, but is a modified form of the process developed at Nancy, France, by Liebault and Bernheim, two of the greatest masters in the world, Liebault, I believe, having only two per cent. of failures in 1012 cases. This method of producing hypnosis is to place the individual in a chair, or in a semi-reclining position upon a sofa, or in an arm-chair, and have them relax their body just as much as possible. They are then told to close their eyes and to try to fix their mind entirely upon sleep, and to think of nothing but sleep. The operator then commences to gradually suggest to the patient that he is getting drowsy, that the eye-lids are heavy, that the arms and limbs are relaxed, and in a little while he will go to sleep; that he is very near sleep—the eyes are getting moister, and sleep is coming over them. The best workers I have observed drop into a sing-song tone of voice when talking to the patient, telling him he is going to sleep in a little while—he is getting drowsier and d-r-o-w-s-i-e-r and d-r-o-w-s-i-e-r, the peculiar intonation of the voice conveying through the auditory nerve the subtle suggestion of sleep.

There are varying grades of hypnosis. The first stage is a very light sleep, a sleep in which the individual is really cognizant, or has knowledge, of his surroundings, and yet is unable to open the eyes. The second stage is that of deep sleep in which the individual is absolutely lost to the external world, as much as you or I would be in the deepest possible normal sleep. The third stage is known as the somnambulistic stage, or the stage in which the individual can get up and move about and perform actions without having knowledge of what he is doing; just as the sleep-walker may, through his senses, avoid objects and carry out the one dominating thought in his mind, so the hypnotised subject, in the somnambulistic stage on another's suggestion may get up and move about

and perform actions without being any more aware of it than the sleep-walker in ordinary sleep.

Some peculiar things exist regarding hypnotism that the average layman and physician does not seem to understand. Nationality does not seem to affect the question of hypnosis, nor is there increased susceptibility in one sex as compared with the other, though most persons are inclined to believe that women are more easily hypnotized than men. Idiots cannot be hypnotized, and that is readily understood after what we have had to say of idiots; they have no mind to hypnotize. Hysteria does not necessarily predispose to hypnotism, and that is another thing that doctors are exceedingly prone to make an error about. They think that every hysterical man or woman is very susceptible to the action of hypnotism. This is a mistake. Weak-minded and vacillating individuals are very difficult to hypnotize. Note that:—Weak-minded and vacillating individuals are very difficult to hypnotize, and the insane, suffering from mania, melancholia, paranoia, or other diseases of that character, cannot be hypnotized. Who make the best subjects? Those who have learned to obey. This is one reason why hypnotists have met with such marked success in hypnotizing the German soldier. The Teutonic mind in the army has, by long training, learned to look up to the physician and to the superior officer and, at the same time, has learned absolute, unquestioning obedience. The consequence is that when the physician tells him he is getting drowsy and is going to sleep, he believes it and goes to sleep, and he makes a most excellent subject. So, then, after all, it is those who have good minds that can be hypnotized and not those who have weak, infirm, or diseased minds.

What is necessary to hypnotize a patient? In the first place, the consent of the patient; you cannot hypnotize an individual unless they are willing to be hypnotized; so that the first, essential part of hypnotism is to have the consent and help of the patient. Now, this peculiar mental attitude of the patient is a very valuable thing to the hypnotist, and if their attitude is favorable to hypnotism, the chances are you can put them into a hypnotic state.

On the other side of the question is the experience of the physician. We know that all pegs are not round; some are bound to be square, and it is rather rough on the square peg to drive it through a round hole and, for that reason, the physician must have sufficient experience and sufficient knowledge to adapt himself to the particular case in hand, and modify his method or modify conditions to meet the demands of the case; but possibly of far more importance than the question of adapting himself to the patient is the personality of the physician. There are some people who normally carry great weight with other people; there are some people who just normally rub the fur the other way—they have no influence with other people—they repel them, and the consequence is that they would have a great deal of trouble in hypnotizing the average subject. Some people and some physicians have what I had probably best term an intuitive sense concerning patients; they just feel—and they could not possibly put it in so many words and tell you why—but they just feel and know that certain things they are going to do are just right; they know how to do it and they know that the particular patient is going to be receptive of that particular thing. They are physicians that carry great weight with their patients; that help to put them on the road towards recovery, and oftentimes they exercise as much influence for good over the patient as if they had actually placed him in the hypnotic state. It seems to me that physicians, above all others, should cultivate this sense. It is a sense that is largely hereditary and well-developed in women. I say hereditary because woman, for many generations, was denied the right of knowledge and learning, and, therefore, had to adapt herself to her surroundings and develop her intuitive sense, not only as a matter of protection, but, literally, as a matter of existence.

Are there any dangers in hypnotism? I should say in hypnotism itself, there are no dangers. Some have hypnotized subjects and could not awaken them; they had lost control of themselves as well as their subjects. I defy any human being living that I could put into a hypnotic state not to awaken the moment I demand he should

awake, or do what I tell him to do. I have hypnotized a large number of patients and I have never had the slightest trouble in making them do just what I said or awaken just when I wanted them to. However, even if the patients do not awaken, if you will allow them to sleep it out, they will, in due time, awaken just as they would from a normal sleep. Some eight or nine years ago, while sojourning at one of the Virginia resorts, some individual attempted the hypnosis of a young lady and succeeded admirably, but could not awaken her. As I drove up in a carriage, being well-known to the proprietor of the Springs, I was asked to awaken the young lady. Now, I did not go in and say to her, "Wake up." I was a stranger to her; she had never seen me, and she had never heard of me; maybe I was repulsive to her; I did not know; so I simply had the gentleman who had induced the hypnosis to suggest to her—I gave him the formula—that a physician who had had a great deal of experience in hypnosis had arrived and would take charge of her case. Thereupon, I proceeded to take charge of the case. I first ascertained that my subject responded; in other words, I caught my hare before I started to make a stew. As soon as I found that she responded to my suggestions (and she was an exceedingly docile and favorable subject to work with) I awakened her without the slightest difficulty. I simply told her that she was coming out of this sleep and that when I snapped my fingers she would awaken, feeling splendidly. I snapped my fingers. * * * She was awake.

Now, where lie the dangers? I think the danger in hypnotism lies in the operator. The operator must be one who has so taken his sensations, emotions and intellect and co-ordinated them under his will-power as to have developed a strong, clean character. The danger is not in the remedy but in the man or woman applying it; it's the man behind the gun that tells, every pop, and unless the individual has a really stable character he should never be allowed in the hypnotic field. But, remember this—that, good or bad character, no individual can be hypnotized without their consent, and, notwithstanding

all the rubbish and bosh that has been written to the contrary, that fact remains.

There is a popular superstition to the effect that when a person has been once hypnotized, the hypnotizer can control their actions for life. That is the veriest bosh. Of all the subjects that have been hypnotized only about fifteen per cent. passed into the somnambulistic stage and it is only in this stage that they can carry out these suggestions that might possibly lead to danger—and now I will go back to state that the real danger is, not in inducing the somnambulistic condition, but in the operator himself. I believe that the question of hypnotizing a subject and compelling them to commit crime is a very doubtful one. I happen to have had the pleasure of seeing the late Professor Charcot carry on some of his experiments in Paris. It is all very well to carry out an experiment in a laboratory with a paper dagger, but it is an entirely different matter to have that individual go out and commit a crime outside of the laboratory walls, and courts do consider the question—and gravely, I consider it a poor defense for the commission of crime. One noted case was that of Jules Bompard of Paris, who plead, as an excuse for murdering a woman, that he had been hypnotized and compelled to do it. The Justices of Paris found him guilty, and Jules Bompard's head dropped into the basket from the guillotine—and, I think, justly so.

What rule, then, should we observe in hypnotizing a subject? I should say, never hypnotize a subject without their consent; never hypnotize minors without the consent of their parents or guardians; never hypnotize a member of the opposite sex without a third person in the room; and, last, but most important, never give anything but good, honest, helpful, therapeutic suggestions. If you follow that you will do no harm in work along this line.

As I said at the start, therapeutic suggestion, or psychotherapy, has been used from time immemorial for the propagation of religious cults, the most stupendous one of which is at the present time alive with us—the Christian Science cult. Christian Science was conceived in iniquity, born in sin, and is a living lie. (Laughter and ap-

plause.) That is absolutely true. Phineas T. Quinby (and of this we have ample documentary evidence indorsed by the Chief Priestess of the Christian Scientists) originated a method of psychotherapies in his practice in a little Massachusetts town, and he gained sufficient reputation to have his successes spread abroad; as in the Scriptural saying: "Having told them to say nothing they forthwith went and spread the news abroad." So, Quinby gained quite a reputation and it sifted through the country until it reached an hysterical, lying flat on her back, paralyzed. This hysteria was carried to Quinby, and, recognizing that the condition she had was purely psychic, and coming as she did in a receptive frame of mind ready to be cured, Phineas T. Quinby laid on his hands and she literally took up her bed and walked. That, however, was not the starting of Christian Science. Mrs. Eddy relapsed and Quinby again cured her. She then began to make her own living and endured all the vicissitudes of the struggle for the bread and butter of life, but so impressed was she with the good that Quinby was doing that she carried forth his books and became his disciple. She instituted classes and taught others in order that the good work might be carried on, until one day the light seemed to break in upon her and she began to take on the patron-saint aspect. She began to teach of the immateriality of things on her own hook, and began to tell the sick and suffering that things were not as they thought they were. "Things are seldom what they seem," said Mrs. Eddy, and she began to propagate the doctrine of I, I, I, and finally, with the help of some writers, produced her book that spread over the country like wildfire. She taught that material things did not exist; that it was all mind, but one of the most peculiar features to me is that she talked the immateriality of things at so much per talk; in other words, there might be an immateriality of matter, but there was a materiality of dollars. Now, why? Why did she not give up this materiality of dollars? She could not afford to do it, boys; there was money in it.

Now, is Christian Science either Christian or scientific? No; it is not, and while I could spend five or six

hours just on these two statements, I want to just briefly tell you why it is not Christian. If Mrs. Eddy is right (and let us, for the sake of argument, grant that she is, that material things do not exist—that all is mind) then the teachings of the Bible, the words that fell from the lips of the Divine Master, His material appearance upon earth, His physical suffering, the agony on the cross, the physical rising from the dead, the coming again to His disciples, the touching of the wounds in His side, are nothing in the world but the beautiful, invented figments of some known or unknown writer. If we accept at all the doctrine of Christ can we get away from the fact that there was a material side to Christianity? Are we to deny the writings of the Bible? Are we to deny collateral history—the history that tells us He was tried and crucified? Are we to deny the history of Pontius Pilate? I say that I cannot deny what I know to be the facts of material existence, and I cannot deny the facts of both sacred and profane history that absolutely demonstrate that Christ walked on earth at the time history says He did and, to put it at its least, fulfilled a mission and set up a character the like of which has never been found in any of the annals of this world.

Is it scientific? We can absolutely refute this part of Mrs. Eddy's belief. Science comes from the word "scio"—to know; therefore, when we know a thing it is knowledge, which the dictionary defines as follows: "Clear perception of truth and fact." Knowledge is gained by systematic observation, experiments and reasoning; knowledge is learning co-ordinated, arranged and systematized; in other words, to be scientific it must be material; you must have had those sensations; you must have seen them or felt them and pigeon-holed them in your brain to have the knowledge—the thought—that makes it scientific. If every disease is mind-disease, then we are compelled to refuse every item that the dead-room, that the microscope, that pathology shows us, day after day, exists, and not only exists, but exists in this case and in the next case and in the case to follow; therefore, the immateriality of the scientific part of Christian Science will have to go by the board. Mrs. Eddy does

not recognize deformity and disease. How any human being with two eyes in their head can refuse to see the crippled, the halt, the lame and the blind, is one of those mysteries which I cannot fathom; it is one of those things that are beyond the belief of those of us who are reduced to the low level of registering sensation. And yet, Christian Science possesses a germ of truth—it is a germ of truth that Mrs. Eddy stole from Quinby, and Quinby got it from our good old science, medicine; and we have known it for years and years; in fact, psychotherapy starts 'way back in the mists of fable, and Phineas T. Quinby practised nothing more than thousands practised before him. In 1552 B. C. it was a recognized part of therapeutics, so that nothing could be claimed by Mrs. Eddy in the way of discovering this new (?) thought.

How does Christian Science benefit its patrons? It says it cures disease. It does not. You have to stop and realize two definitions of disorder. A disorder is a very different thing from a disease. A disorder is an interference or a change in the function of an organ; and if we have some change in the function of the brain—that is, if we have some mental disorder like, we will say, an obsession, a fear, there is no question but that psychotherapies—not Christian Science—will relieve such a condition.

The next thing I shall take up is the Emmanuel movement that is at the present time spreading out its tentacles everywhere over this country. This movement was started in 1906, in Boston, by Drs. Worcester and McComb. Before going any further I want to note this. Dr. McComb is a well-trained, cultivated psychologist; Dr. Worcester is a Doctor of Philosophy and a Professor of Psychology. You can readily see that a psychotherapeutic clinic, having at its head two well-trained psychologists, would probably be well administered. The movement attracted world-wide notice and very much criticism. They were sufficiently honest and sufficiently true to their professional attainments to reject about seventy-five per cent. of the applicants, and to receive no one who had not first been examined by a thoroughly competent neurologist who had pronounced the disorder—one

amenable to treatment by this particular psychotherapeutic means. They make these people pledge themselves that they would stay under treatment at least six weeks, and sometimes longer. They treated each case individually and if they had too many they put the surplus on the waiting-list and made them take their turn; in other words, they treated these cases just as scientists would treat them, for both of these men were scientific as well as being honorable gentlemen.

What is the danger in the Emmanuel movement? The same danger that there is in hypnotism—that it will get into the hands of incompetent persons. You can safely venture the statement that, not only disorders of a peculiar kind will be treated, but every kind of disorder and disease will be hypnotized and given the benefit of the doubt.

Now, what cases are most likely to be benefitted by this Emmanuel movement? They are a limited class; they are cases that need help from the moral, from the ethical, from the spiritual side rather than from the medical side. There are a great many people who dislike to go to a doctor and talk to him about certain conditions that worry and fret them, especially if they are in the moral or ethical sphere, and here is where the clergyman can fill a most excellent office, because a great many individuals will go to him with their ethical troubles who would not go to a doctor, and here he can exercise psychotherapy in a way that will probably prove very beneficial to these sufferers. An unusually rational estimate of this movement, from a clergyman's standpoint, is contained in a recent article by the Rev. George A. Gordon, published in the "Congregationalist" for February 13th, under the title "The Practice of Medicine by the Unfit." Dr. Gordon defines the practice of medicine as "the treatment of human beings in a pathologic condition as the subjects of physical disorders and diseases." He says: "This most recent phenomenon is the emergence of the preacher of religion as a medical practitioner, his wizard wand being psychic force. Here again the interest is great and generally the motive of the healer is pure. Disease abounds; the mystery of pain is widespread;

suffering is one of the horrors of existence. The forces at work for cure, relief, mitigation, noble and efficient as they are, manifestly are unequal to the need. Can we not invent some therapeutic agent that will work wonders, that will change, like the rising sun, night into day? Just at this point the delusion of the religious healer becomes plausible." The fact that the principles taught as new discoveries are in reality as old as human relations is then brought out. "That psychic force is a healing agent, no man will deny. The personality of a vigorous, wise, humorous, sympathetic and noble human being, of any vocation, is a distinct influence for health in any community in which he lives. But is not this as old as the relation of parent and child, teacher and pupil, prophet and people? Have not all wise preachers in all generations always done the attainable service which these psychotherapenstists have turned into a cult? The psychic treatment of disease is apt to become a craze. An auxiliary force strictly limited in availability and always requiring for its use a level head, is turned into a panacea in cases that call for a scientific physician. In pathology we enter the domain of a disordered or diseased physical organism. No man has the least moral right in this domain but one scientifically competent. I do not know a single member of my profession who could pass a first year's examination in any reputable medical school in the country."

Dr. Gordon says, regarding the monstrous confidence with which persons, largely without knowledge and with no special training rush in as healers, that "they are monumental examples of the 'blind, persistent courage of the book-agent.'"

His concluding words are very good—"It remains for the individual man to do the small bit of work for which he is fitted; to let religiously alone the work for which he is manifestly unfit, and to bear in mind that about the best thing good men can do for the noblest causes is to go through the world with a level head."

In conclusion permit me to say, that in the hands of neurologists and well trained psychologists and clergymen, psychotherapy is capable of doing a vast deal of

good for a certain class of moral and religious sufferers, but in the hands of the unfit, in the hands of the untrained preacher, who will treat any and all cases, I say to him that he should open his Bible to the twenty-second chapter of Matthew, place his finger on the twenty-first verse, and read the words of the Divine Master—"Render unto Caesar the things that are Caesar's and unto God the things that are God's." (Applause.)

PERNICIOUS VOMITING OF PREGNANCY.

BY DR. WILLIAM B. DOHERTY.

*Read before West End Medical Society, stated meeting,
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While vomiting is one of the commonest diseases of the digestive tract occurring in pregnancy, and usually does not continue after the fourth month of gestation, there are some cases, fortunately rare, in which emesis goes on during the whole period of pregnancy, resulting in danger and death to mother and fetus. This condition is known as pernicious, uncontrollable, or intractable vomiting of pregnancy—hyperemesis gravidarum. Possibly in the whole category of disease we cannot find an affection so troublesome, unsatisfactory and unreliable in its treatment. Its etiology is generally obscure and not dependent on any one factor. Giles has pointed out that probably three factors enter into the causation of the physiological vomiting of pregnancy. First, exalted nerve tension; second, peripheral nervous irritation arising from the enlarging uterus; third, an easy outlet for this exalted tension, the vagus.

By the exaggeration of any one or two of these three factors in mind the predisposing causes of pernicious vomiting may be grouped as follows: Primiparity: The distention of the uterine walls is accomplished with greater difficulty in primiparæ on account of the greater tonicity of the uterine fibres. Multiparity: In multiparity and hydramnios the evolution of the uterus proceeds at

a more rapid pace and to a more considerable extent. Chronic pre-existing disease of the uterine tubes, a salpingitis, an ovaritis, or an appendicitis, a pathological state of the alimentary canal, as dyspepsia, chronic gastritis, or any intestinal disease. ; too frequent sexual intercourse; mental or physical shocks; prevention of conception by mechanical devices. After the sixth or seventh month it is generally due to nephritis with uremic manifestations.

The essential exciting cause of the nausea and vomiting of pregnancy has been recently considered by some as due to physiological contractions of the uterus, which continue during gestation. The development of the embryo and its envelopes as well as the hyperplasia of the uterus and its lining are accomplished by great chemical changes. Owing to the retardation of the blood in the uterine sinuses, there is a residuum which, as it becomes surcharged with effete matter, may act as an irritant and stimulates the uterus to contraction, and thus to a certain extent the organ may be said to empty itself, and those contractions, though rhythmical and painless, precipitate the paroxysms of nausea and vomiting. We know that a very close relationship between the stomach and the female genitalia is established through the sympathetic system which is more pronounced during gestation.

Some authors recognize two distinct types of pernicious vomiting of pregnancy, the autotoxic and non-toxic; the former is indicative of the severer symptoms of that condition, such as violent, almost incessant vomiting, that may be characterized in the later stages by hematemesis, the vomited matter having coffee-grounds appearance (black vomit). Whether anything is ingested or not, mucus and bile are vomited. The amount of urine decreases rapidly, is of a dark color and high specific gravity. There is a profound toxemia affecting the blood and higher nerve centers and evidences of hepatic lesions.

The non-toxic type is characterized by the rapid emaciation and inanition of the patient. She may die of starvation in view of the fact that the physician cannot control the vomiting. These types cannot be separated by hard and fast lines for in my opinion they are often

indistinguishable. By careful investigation of the metabolism, by characteristic pathologic findings in fatal cases, and by extensive animal experiments, the closer relationship between the increased emesis of pregnancy and autointoxication seem to-day to be well established. There is, however, a neurotic or hysterical substratum very much in evidence in the majority of the cases of hyperemesis of pregnancy.

Before referring to the treatment of this affection, you will pardon me if I digress a little and take a retrospective view of our patient during her school days, and afterwards before she married. While it has no more bearing on the subject under consideration than other diseased conditions, yet I believe it worthy of our attention in connection with it.

The average school girl before the age of 14, thanks to the dissemination of hygienic laws, is jolly, happy, well formed, with an abundance of red blood and good nerve; a better picture of vigorous childhood than was presented to us twenty years ago. Her home environment physically has been improved. She obtains better air, and more exercise and sun-tan than her mother did. She dresses loosely—her chest expands, her limbs are free, her feet can grow. Would that this charming prospect could be continued until her marriage and afterward. But when she arrives at the age of 15 or 16, the abominable corset, the latest Parisian device for dislocating and constricting some of the most important vital organs of the body, is applied, and high-heeled, small shoes are worn.

This corset when put on extends from the breasts to a point midway between the hips and knees. Before it is adjusted the abdominal skin and viscera are pressed upwards and the corset laced by constricting the waist from 1 to 3 inches, and the hips also pressed, and made as small as possible. The woman thus encased cannot breathe, nor sit down with comfort. Under the waistband or belt is the lower portion of the epigastric region of the abdomen. When it is tightened, the liver, duodenum, the gall bladder, the pancreas, the kidneys, the spleen, the stomach, and the hepatic flexure of the colon are pressed upon, their circulation impeded, their func-

tion interfered with. The uterus and its appendages are misplaced.

While the White Scourge and its prevention are receiving marked consideration from the profession and laity at the present time, the plague of torturous dressing, the science of pseudo cosmetology, which tends to the production of deformity, derangement and disease of important organs, is treated in a sentimental manner with whispering silence, or in a spirit of cant and levity.

What a pity that a society of refined and popular women cannot be organized in our cities who would dare appear in public in loose, comfortable garments without the tight-fitting corset, or constricting waist-band, and start the fashion for the preservation of their sisters' health, rather than be led by the dictation of Parisian modistes.

Any means, mechanical or otherwise, used for the purpose of preventing conception, causes congestion of the pelvic organs, which eventually leads to functional and organic disease.

We neglect to do our full duty to those engaged to be married, and the newly weds, by withholding from them such important information. What has all this to do with the subject of the title of this paper? Possibly a great deal, in the way of its prevention.

The treatment of hyperemesis gravidarum is a *gestio vexata*, and maybe hygienic, medicinal and operative.

The hygienic consists in a thorough examination, and ascertaining and removing, so far as practicable, any known probable cause, and the regulation of the diet and the general mode of living. A simple change of scene, or of doctors, may relieve the condition. Sexual intercourse must be strictly prohibited; the bowels must be kept patulous, all odors of cooking should be kept from the sick room. Any article of diet for which the patient has an aversion should be banished from the sick-list, while if there be any suitable article of diet for which is developed a longing, may be supplied.

The treatment is an enormous tax on the physician's patience. While continually using moral suasion, he must experiment with one remedy after another, and often re-

turn to those that did not help. A drug that is most potent to-day may prove absolutely ineffectual to-morrow. The woman should remain in the recumbent position and perfect rest and quiet enjoyed. It is not necessary to give the list of anti-emetics and nerve sedatives that are recommended for this affection.

Last week I was called in consultation to see a patient with pernicious vomiting, who was considerably emaciated. Temperature 101; pulse 120; between two and three months pregnant; with dry, coated tongue, fetid breath, and she was relieved by 1-10 gr. of calomel every three hours, and one drop of wine of ipecac. Popcorn was ordered, and though she never ate any before, she enjoyed it, and claimed that it was good for her stomach.

Two or three drops of Tr. Nux Vom. and iced champagne and saline enemas were administered, and I learn she is now eating and doing well. Of course the efficacy of Oxalate of Cerium and Bismuth and 1 or 2 per cent. solution of Cocaine applied to the throat, or 1-8 to 1-4 gr. internally; Menthol, 1-2 gr.; ether spray to the epigastrium; vesication over the fourth or fifth dorsal vertebra, etc., etc., cannot be disputed.

As there is a toxemia present in the majority of these cases, we should direct our measures accordingly. Malpositions of the uterus must be corrected, a catarrhal cervicitis treated with peroxide of hydrogen, Churchill's Tr. of Iodine, or a solution of Nitrate of Silver, 10 to 30 gr. to the ounce. Should the vagina or cervix be hypersensitive, a solution of cocaine 10 or 15 per cent. may be used.

If the cervix be stenosed and rigid, it may be dilated somewhat, though this procedure should be postponed as long as possible owing to the risk of producing abortion. Edgar states that he dilated the internal os in primiparæ, curetted the cervical canal, scraped the cervix free from erosions, applied pure carbolic acid to the cervix and canal and relieved the symptoms without interrupting pregnancy in a number of cases given up as hopeless, and sent to the hospital to have labor induced. The finger will often serve as a dilator, and in every case the greatest care must be used not to rupture the membranes. Rectal feeding may have to be used in desperate cases.

The song of Kudos is, unfortunately, too often sung in sonorous notes around the daring of the knife, and instrumentation.

While it may become necessary to empty the uterus in order to save the woman's life, I am convinced that such an extreme measure will indeed be rare if the physician be painstaking in seeking the cause, showing earnestness of purpose in his treatment, and inspiring his patient with hope.

DISCUSSION.

Dr. T. E. GOSNELL: I enjoyed the paper; it is very full and complete. I recently had an experience with a case in line with the paper, which finally resulted in death.

About the middle of last March I was called to see a woman because of a very sick stomach. She was 39 years old, had been married eight years, and gave a history of considerable irregularity in menstruation. She had never been pregnant. At the time I saw the patient her menses had stopped, but no significance was attached to it because she had previously gone as long as three or four months without menstruating. She was auto-intoxicated and I endeavored to relieve her of that part of her condition by giving her calomel and getting her bowels to moving in that way, which partly relieved her of the nausea. The nausea was continuous, all day long. When I saw her she was in bed and had been for two weeks. I suggested the possibility of pregnancy, but she felt positive that she was not pregnant. After visiting her for about three weeks I made an examination digitally, and told her that I felt the womb to be enlarged and believed she was pregnant. The womb was in good position and the os had that velvety feel as in pregnancy. The case ran along for about two weeks longer, and I had Dr. Johanboeke see her with me, and he coincided with my opinion that she was pregnant. We tried one character of treatment and then another in order to relieve her of this continuous vomiting, but apparently nothing had any permanent effect; we could relieve her to a certain ex-

tent, but not entirely. The patient was somewhat obstreperous about taking her medicine; she did not appear to want to take what we gave her for a sufficient length of time to afford relief. I then had Dr. Manley see the case with me, and he suggested the possibility of a surgical condition and not a pregnancy. I then called in Dr. Vance who said it was pregnancy, and not a surgical condition. All this time I had in mind the possibility of having to bring on a miscarriage, but the patient's pulse was good, ordinarily not running over 100, and she never had any temperature, yet she always presented the appearance of an autointoxicated condition, even when we were able to get her bowels to move freely, which did not seem to afford any relief. She had a dry, coated tongue and was continually restless. As suggested in the paper, the woman seemed to have an hysterical undercurrent, and had the tremor in the eye-lid that we frequently see in nervous conditions. We gave her a little of everything, oxalate serum, bismuth, wine of ipecac, etc., with but little effect. Her nourishment consisted principally of liquid beef peptonoid, which she took with more ease than anything else, and, in most instances, retained it in teaspoonfull quantities. Three or four days before she died (which was on the 30th day of May), I had Dr. Bailey see her with me, with a view of bringing on a miscarriage, which the family kept urging me to do. For a week before Dr. Bailey saw her she had been suffering obscure abdominal pains. Two days after Dr. Bailey saw her I was called about five o'clock in the morning, and found that she had had a miscarriage, discharging a 4 1-2 or 5 months foetus. She thought she had felt life about two weeks previous to that, but I doubt whether she had or not, because the foetus, when born, appeared to have been dead about that length of time. When I arrived the foetus had already been delivered, as well as the after-birth to a certain extent, but upon digital examination I found a certain amount of after-birth left, and I telephoned Dr. Johanboeke, who gave her chloroform, and we cleansed out the womb. When we left the woman at about seven o'clock she had a pulse of 108, and was in good condition, sleeping quietly, and we felt that she was

going to be all right. I again visited her at about ten o'clock and I noticed then that her pulse was growing somewhat weaker. She could be aroused very easily, but would immediately go back into sleep. At four o'clock that evening she died. They telephoned for me, but when I arrived she was dead. I do not know why she died; she had no kidney complication that could be demonstrated by examination of the urine. The urine was rather scanty during a great deal of the time. After the miscarriage she seemingly failed much more rapidly than before. There was nothing left of her but skin and bones. There was never any indication of dilatation of the womb; the mouth of the womb was patulous. She had no symptoms of anything wrong so far as the womb was concerned, no discharge, no whites, no trouble along that line during the whole time—just simply continuous nausea that we could not relieve.

DR. LUKINS: How much chloroform was she given?

DR. GOSNELL: About two drachms.

DR. DOHERTY: What did you clean out the womb with?

DR. GOSNELL: With the finger.

DR. W. T. BRUNER: I was very much interested in the paper; the essayist covered the ground very thoroughly.

There is one method of treatment that is very often successful in these cases where the nervous element is found; that is, after free elimination, use one of the drugs mentioned by Dr. Doherty—oxalate serum, sub-nitrate of bismuth, or wine of ipecac—and make the positive statement to the patient that it will have the desired effect—I mean by that, using suggestion. I think suggestion is a valuable adjunct to the treatment of these cases.

DR. H. H. GRANT: I congratulate Dr. Doherty, who has handled this subject in a very scientific and interesting way; it is sometimes a little difficult to get science and common-sense combined together in as emphatic and positive a manner as he has succeeded in presenting this subject.

As to the cause of the condition: During the reading of the first part of the paper I did not think the essayist had struck the key-note, but in the latter part he pre-

sented it very clearly. In these trifling forms of vomiting of pregnancy, which give a moderate amount of trouble, there is very little danger, but in the forms which do give rise to danger, there is certainly some form of toxin present which is dependent upon the condition of the uterus which, by some means or other, produces a poisonous condition which gradually intoxicates the patient in such a way as to lead to a fatal result unless relieved. For this reason, I think those cases that lag along, as indicated in the history given by Dr. Gosnell, are constantly crying out for the relief that can be easily given by surgical interference, and I feel that it is very important to earnestly insist that these cases which persistently present a structural cause and continue to get worse, should be given relief by emptying the uterus, and in this way doing away with the poison which is undoubtedly tending to destroy the life of the patient. As Dr. Doherty said, I do not think it is always possible to discriminate between those conditions which present positive toxemia and those which do not, but wherever there is doubt, the doubt should decide the presence of a pathological condition which can be satisfactorily relieved by emptying the uterus under a careful, aseptic technique. Unless that is done, the condition of the patient gradually becomes worse and it soon gets to the stage where operative interference is not likely to result favorably.

The importance of correcting a mal-position of the uterus is emphasized by the essayist, and if that has been done, or the uterus is found to be in position, and no condition can be discovered to explain the trouble, the presumption is that it is due to something in the blood, and this something, in the vast majority of cases, is dependent upon the gravid uterus and will be relieved when the uterus is emptied. For this reason, long-continued delay, which exhausts the patient and renders her less susceptible to relief by operative interference, is to be avoided, and no hesitation as to the propriety of interference should deter the surgeon from advising proper and prompt evacuation of the uterus.

Recently I saw a case in which operation was indicated a little more positively, perhaps, than in Dr. Gosnell's

case. This patient I saw with Dr. Lukins, Dr. Prather and Dr. Boggess. Dr. Lukins and Dr. Prather, after consulting about the case, had already decided that the pregnancy should be terminated and asked me to help them empty the uterus. We decided that it was not wise to attempt to clean out the uterus, but rather to dilate the cervix and introduce into the uterus a gauze pack, which would directly produce mechanical contractions and enable the patient to relieve herself. She was in extreme condition, very thin, and I thought the trouble had continued as long as was safe, and that it was hardly wise to attempt the necessary manipulation to clean out the uterus. After the cervix was dilated and the uterus packed, the patient went along for forty-eight hours with some little temperature, and perhaps a chill, but succeeded in emptying the uterus and, I understand from Dr. Lukins, made a very satisfactory recovery.

I think one thing to be emphasized is, that those conditions which, as indicated by the grave progress of the case, are clearly removed from the simple non-toxic form, when persistent and progressive, should be subjected to such interference as will empty the uterus. By this means the mortality of the mothers will be considerably lessened and if it is not done in the majority of cases, both the mother and foetus will be lost.

DR. O. H. KELSALL: I have certainly enjoyed this highly scientific paper. I believe with the essayist that we, as doctors, should look toward educating our women-folk to proper hygienic care of themselves in their earlier life.

As Dr. Doherty has pointed out, some of these cases are due to a toxemia. I had one patient who suffered from this condition on two different occasions, and I am satisfied that it was due to a toxemia. On the first occasion, after trying all the remedies mentioned and failing to get relief, I resorted to continuous saline irrigation per rectum, as used in operative conditions, having the patients absorb eight to twelve quarts of saline solution per rectum in the twenty-four hours, thus flushing out

the system mainly through the kidneys, and relieving the condition. I will say, however, that this patient later aborted, and whether or not she brought this about by mechanical means I am unable to say.

I had another very desperate case that tried me sorely. This patient was a primipara, with absolutely no infective condition of the vagina or uterus. She was not an hysterical woman; on the contrary, she was very strong-minded. I tried everything without avail, and finally fed her per rectum for about six weeks, not allowing her to put anything on her stomach whatever. Finally she began to vomit coffee-ground material and even blood. The condition of the patient grew more desperate; her pulse got very rapid and I saw that if something was not done I was going to lose her. After consultation, an abortion was induced and the patient very promptly recovered. From her symptoms I believe that, during the course of the pregnancy, she developed a gastric ulcer.

These cases are grave ones and the physician in charge is under a great moral responsibility, and it is very often a question what to do. I believe in those cases where conscientious effort has been made to relieve the patient without success, it is better not to risk sacrificing the mother but to save her if we can, by terminating the pregnancy.

DR. JOHN K. FREEMAN: I want to thank Dr. Doherty for taking my suggestion. He asked me to suggest something to write on and I told him I would like very much to hear him read a paper on the vomiting of pregnancy.

We all agree that this condition differs a good deal in different individuals. The toxic cases are the dangerous ones, and sometimes it is very hard for us, with our present methods of diagnosis, to say positively that a case is of the toxic variety. Sometimes even those cases where the bowels are bound up and the patient has a stinking breath, will clear up and the vomiting cease almost as suddenly as it started.

The question of emptying the uterus has been a most serious one with me. In several cases, in which I thought

the woman would surely die, I would go back the next day and find her all right. That has happened several times in my experience. It seems to me that the result of emptying the uterus is not always good; the mortality is very high, not only in my hands but in the hands of others who have been called upon to do this sort of work. It is a very dangerous procedure; in fact, I regard it as a much more dangerous operation than ordinary abdominal section. If the condition is of the toxic variety, the woman is very often in bad shape to undergo the operation, and if the physical condition is at all good, I would much prefer to wait and temporize, in the hope that nature will take care of herself.

Dr. Doherty saw one case with me. This woman slightly improved when she was removed from her home to the infirmary and placed in a darkened room and not even her husband was allowed to see her. She improved slightly for nearly two weeks, but she could not eat or sleep; she would retch whether there was anything in her stomach or not. The family were clamoring for me to empty the uterus, but I temporized, and the vomiting finally stopped as suddenly as it began. After going through the whole materia medica without avail, I ordered three ounces of spearmint water and she took three doses and the vomiting stopped. However, she aborted about a month after I allowed her to go home. She vomited all the way through her first gestation and I delivered her of a fine, healthy child, who is now five years old. Therefore, I think we must be slow about emptying the uterus in these cases.

DR. J. B. LUKINS: With the possible exception of eclampsia, I have never seen any condition of the pregnant woman that worried me as much as the few cases of hyperemesis gravidarum that I have seen.

In connection with the case referred to by Dr. Grant, it might be interesting to mention that a catheter was introduced into the uterus and the vagina packed two different times, and left for thirty-six to forty-eight hours, with no result whatever. The patient's pulse steadily grew weaker and increased in rapidity; once it

went to 170. Dr. Grant was then called in and, as he said, the membranes were ruptured.

DR. WM. B. DOHERTY: I am very much obliged to you for your kind and generous discussion of the paper. I am sorry, however, that the corset as a cause of disease has not been discussed.

While, of course, we all have had experience in the treatment of the vomiting in pregnancy, I have not had many cases of uncontrollable vomiting. Last year I had a case in a neurotic Jewish girl, not long from Russia, who had pernicious vomiting for four months. Before I had charge of her she was taken to the hospital to have her uterus emptied, but when she finally understood what was to be done she got off the table in high indignation. I got charge of the case afterwards. She was in a desperate condition, vomiting continually. I ran the gauntlet of remedies, paid her a great deal of attention and, at last, after the fourth month, the vomiting ceased, and Dr. Cottell told me he delivered her of a fine, healthy child.

Now, I must say I have never yet seen a case in which it was necessary to empty the uterus. I believe that such cases do exist, but we should temporize, and temporize, and temporize; we should dilate the cervix without rupturing the membranes before attempting to proceed any farther.

Abstract of some of the Principal Papers Read Before the

American Proctologic Society,

Eleventh Annual Meeting, Atlantic City, N. J., June 7 & 8, 1909.

**PRESIDENT'S ADDRESS.—“PROGRESS IN
PROCTOLOGY.”**

THE PRESIDENT, GEO. B. EVANS, A.M., M.D., DAYTON, OHIO.

Who stated that not many years since, the creation of Proctology as a specialty was frowned upon; for an indefinite period what was known of and what was done for diseases of the rectum was largely empiric, and not due to special knowledge or scientific study.

A few of us, at least, can remember when it was the

rule among general practitioners, to make no special effort to determine the pathology of diseases of the rectum; in fact, it was believed unbecoming the dignity of a high-classed, high-toned medical gentleman to so lightly esteem modesty as to ask for the privilege of seeking naked truth. Without attempting to make a diagnosis, opium and lead wash, with catharsis, was deemed a sufficient treatment for any case. Little was taught in medical colleges of these diseases, for little was known and no special desire to learn much concerning them seemed to exist. But, fortunately, in the natural evolution of this specialty, this ignorance and indifference in the main, has been eliminated, and this field of work has assumed that of an accredited, and justifiable specialty. No longer do we have to contend with the non-recognition of serious pathology, because of interposed modesty, ignorance and criminal indifference. A knowledge of the importance of being able to diagnose and treat intelligently, diseases of the rectum is now considered essential for every general practitioner, and all this as a result of the creation of proctology, by men who have made special effort to develop this field of work. The credit is due to such men as Adler, Allingham, Ball, Grips, Edwards, Earle, Gant, Martin, Pennington, Kelsey, Matthews and others. To them are we indebted for progressive proctology.

As a matter of course, our pathology of this area is of necessity a modern pathology, and our knowledge of valves, varicosities, neoplasms, ulcerations and suppurations, are not based on hypothetical ideas of a quarter of a century since, but instead on the rather exact revelations of laboratory findings. The import of the presence of staphylococci, gonococci, colon bacilli and tubercle bacilli, is equally as much importance to the rectal surgeon, as is the microscopical proof of the malignancy or benignity of a bit of tissue. With what greater assurance the proctologist approaches examinations of rectal diseases than did the physician of some years since. With a wide open field, if necessary, the aid of anesthesia, the proctoscope and the laboratory, there is usually not much difficulty in making a diagnosis

—a diagnosis inseparably linked with its dependents—treatment and prognosis. Under the influence of progressive proctologic work, ignorance and indifference to the recognition and treatment of rectal diseases is rapidly disappearing from the average medical man, as well as from the average layman. As a result of which the sum total of human suffering is immeasurably lessened, and individual existence is not so frequently abridged. The victims of rectal diseases are to be congratulated that this branch of science, or pseudo-science, has sufficiently advanced, that it now occupies the serious attention of the most progressive and intelligent men. The Lister methods of that day have been so changed and improved that they now seem very crude. The value of thorough cleanliness, asperis, and the antiseptic influence of certain drugs, is of immeasurable value. It is now understood that the recto-anal area can be placed in a surgically clean condition, and that there need be no fear following operative interference. In not a few instances, it obtains that relief is dependent on rectal surgery, when the subjects are unfit for narcosis produced from a general anesthetic, in cases of cardiac, pulmonic or nephritic disease, making it hazardous to use general anesthesia. Sometimes it would seem that this danger of the uses of an anesthetic is too lightly thought of, and consequently, the mortality rate is increased. Local anesthesia, under cocaine infiltration, for the most part, is satisfactory, and is a great convenience to the operator and a life-saving narcosis in many instances.

The palliative treatment of hemorrhoids by proctologists is largely a matter of enforcement, viz: where they are not permitted the opportunity to relieve by radical methods. The operative methods of removing hemorrhoids are so well understood, simple and effective, that it is foolish to attempt to relieve them by drugs or palliative measures.

The Allingham, or ligature method, when correctly and carefully performed, is generally applicable, but is not so free from pain and so quickly convalesced from as the clamp and cautery method. Many regard the last-

mentioned method as the one to be preferred. I believe, however, that the enucleation method approaches nearest to the ideal in results, and that the retention of the plug is not so painful as some would have us believe.

Proctoscopic examination is of importance, and is a distinct advance in rectal work. It is of great assistance in determining disease beyond discovery by ordinary methods. It is of distinct service in diagnosis, and of great value in aiding treatment in not a few conditions.

There is more hope for the ultimate cure of tubercular conditions; our better understanding of what environment means to these people will go far toward helping them to recovery, and there is not so much reason for a delayed recognition of the condition, which is of paramount importance.

I believe there is possibly a better understanding of syphilitic conditions, ulcerations, infiltrations and strictures, but the eternal dependence on anti-syphilitic treatment to resolve hyperplastic tissue is not so conspicuous, and progressive workers in this field realize that incision and excision are often necessary.

Concerning malignant and benign growths, the surgical rules that apply in other anatomical regions apply here. Early discovery and early removal is the only hope, as we all know, in malignant conditions, and as an advance, the removal of cancerous growths not within easy reach from below may be dealt with from above, or supra-pubically, and just here it may not be inopportune to remark that it is to be believed that ere long it will be realized by the average physician that the removal of the rectum per se, is not as disastrous a matter as it is sometimes made to appear, especially since it is known that muscular transplantation will preserve more or less perfectly the function of the sphincters. The development of the technic essential to produce sphincteric power, will relieve rectal extirpation of one of its most unpleasant features and render less hesitant many sufferers who should have the benefit of the operation.

Another matter of progressive interest is that colonic or rectal ptosis is amenable to intra-pelvic or intra-ab-

dominal fixation, bringing relief that in some instances cannot be hoped for by any other method of interference.

After all, the most encouraging sign is that the profession recognizes the fact that proctologists have a legitimate right to exist as specialists, and that diseases in the ano-rectal region deserves the same consideration as elsewhere. With the elimination of indifference, estheticism, modesty, the more universal belief in the necessity of early examination and diagnosis, we can but hope for greater progress and more relief to suffering humanity.

Gentlemen, when I consider the personnel of this Association, I am quite confident of the perpetuity of proctology as a distinct entity and am equally sure the progression in this special field of work will be in keeping with that in other specialties.

“TREATMENT OF PRURITUS ANI, WITH A CONSIDERATION OF ITS PATHOLOGY AND ETIOLOGY.

BY WILLIAM M. BEACH, A.M., M.D., OF PITTSBURGH, PENN.

The following conclusions were drawn by the writer:

1. That pruritu ani occurs in mild and severe forms; mostly in middle life; the mild type with simple pruritus, the severe type with marked eczema and skin changes.

2. Certain aberrations in general metabolism, or in adjacent structures are simply incidental and should be considered as complications.

3. Intra-rectal growths, as hemorrhoids, adenomas, etc., or the presence of parasites are contributory.

4. The distinct pathogenesis of pruritus ani consists of single or multiple burrowings from the anal pockets, emitting a serous or sero-purulent substance, which sinus may be complete or blind and is always accompanied by proctitis, and frequently by cryptitis, and small ulcers at the ano-rectal line.

5. These sinuses when complete are the sequelae to an abcess history, but the origin of the blind recesses is in doubt, and yet it is not unlikely due to an infection by the colon bacillus.

CONTINUED IN NEXT ISSUE.

THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF LOUISVILLE TANGLE.

If there was any hope for a satisfactory settlement of the University of Louisville tangle, the issuance last week of the annual catalogue for 1909-10 has dispelled it.

It is now said a suit will be instituted against the university to force a settlement on the deferred payments on the properties "absorbed" by the university, as explained in the letter from one of the former teachers of the University of Louisville in our issue of August 14. The appointment of a receiver is almost certain, and the affairs of the school are in an inexplicable tangle.

The auditing committee has been refused access to the books in order to ascertain the financial standing of the institution.

It is almost certain that a new medical school will be established in the near future; in fact, Louisville capital is being secured, and with what has been promised outside of the city, a sufficient amount for the organization of a first-class medical college is assured.

To show how the Kentucky profession regards the situation, the following resolutions, condemning the Board of Regents of the University of Louisville for the methods employed in discharging certain members of the faculty, passed by the Muldraugh Medical Society is significant. This society is composed of the thirteen counties adjacent to Hardin County.

"Believing in our State, and especially in the grand city of Louisville as a medical center, and further believing that the consolidation of the former medical schools into one university was an important step forward to a better and higher medical education, and believing also that any discord and lack of harmony upon the part of the board of regents and the medical professors of Louisville and State of Kentucky will be detrimental to said university. Believing that unity of purpose of a common cause is absolutely necessary to the success of that cause. Knowing also that many of the deposed professors have been an important factor in bringing the medical profession of the State to its high standing, both by their teach-

ing and through their work in the medical societies of the State, and also feeling that it is an injustice to the great student body turned out by the medical colleges of Louisville before their consolidation to depose these noble men who have given their property and professorship for higher education. Therefore we most heartily condemn the means and manner in which they have been treated by the board of regents and the clique in power in the present reorganized faculty."

There are, of course, two sides to every controversy, but it seems that the teachers who were deposed object less to the fact of being ousted as to the manner of doing so. Considering that property is involved, and in view of certain promises made by the board of trustees of the university, the local profession is almost a unit in believing the entire proceedings ill advised.—*Lancet-Clinic*, Aug. 21, 1909.

Therapeutic Suggestions.

CHOLERA INFANTUM:—Dr. Edson of Brooklyn says that he has often given the following in cases of Cholera Infantum with happy results, in the proper stage of the trouble:

Acid Sulph., Dil.M. xv.
 Spts. Chloroform2 drams
 Tinct. Opi Camph.1½ ounce
 Oil of ClovesM. v.
 Syr. Ginger3 ounces

M. Sig.—Teaspoonful, repeated as the indications would seem to require.

ACUTE DYSENTERY:—Butler employs an enema of ten grains of Tannin added to four per cent. solution of Boric Acid.

Trousseau advises the injection of six ounces of water containing five grains of Silver Nitrate.

Bartholow prescribes:—

Cupri Sulph.Gr. 1-16
 Magnesii Sulph.1 dram
 Acidi Sulph., Dil.M. 8
 Aquæ, Q. S.

One such dose every four hours.—*Denver Medical Times*.

DIARRHŒA OF ADULTS:—

Bismuthi Subnitratis4 drams

Tinet. Opii. Deoborati, Fl.1 dram

Aq. Cinnamoni, Q. S. adfl.....2 ounces

M. Sig.—Shake. One to two teaspoonfuls every two hours.

Indication:—Use in serous diarrhœa.

VAGINITIS:—

Argenti NitratisGr. 20

Aq. Dist., Fl.1 ounce

M. Sig.—Apply thoroughly to vagina and cervix after scrubbing with soap and water.—*Ex.*

INTESTINAL COLIC, ETC.:—

Spt. Aetheris co.

Spt. Chloroformi

Spt. Ammonii Aromat.

Tinet. Lavand., co.aa ½ ounce

Syr. Tolutani2 ounces

M. Sig.—One to three teaspoonfuls as needed.

DOBELL'S SOLUTION:—

Sodii Bicarb.

Sodii Biborat.aa. 1 dram

Acidi CarboliciM. xxxx.

Glycerini1½ ounces

Aqua, Q. S., ad.1 pint

M. Sig.—Use as a spray for cleansing throat and nose.

ACUTE ARTICULAR RHEUMATISM:—Hatfield speaks well of the following liniment as a local sedative to the affected joints:

Olei Gaultheriæ, f.½ ounce

Spirit. Chloroformi, f.½ ounce

Lin. Saponis, f.3 ounces

M. Sig.—Apply freely and wrap the joint in cotton batting.

Diseases of Children.

LASSAR'S PASTE:—

Acidi Salicylici	1½ dram
Zinci Oxidi	2 drams
Amyli	2 drams
Vaselini	2 ounces

M. Sig.—May be applied on strips of gauze or in old chronic scaly patches directly rubbed in with the finger. It is of value in many varieties of eczema and intertrigo.

FOOD FOR INFANTS:—Dr. Louis Starr recommends the following as the best substitute for mother's milk in gradual weaning of a child, say at ten months; it may also be employed to support the breast when the mother's milk is insufficient.

Cream	1½ ounce
Milk	2 ounces
Sugar of Milk	1½ dram
Water	1 ounce

Should the quantity fail to satisfy the child, all the ingredients except the cream may be increased until the mixture measures six, eight, or twelve ounces.—*Journal of American Medical Association.*

SPECIFIC FOR RHUS-POISONING:—

Ol. Sassafras, f.	1½ ounces
Boro-glyceride	4 drams

Sig.—Apply to affected parts with fine brush once every six hours.—*Ex.*

CYSTITIS:—

Acidi Bezoici	
Sodii Borat, aa.	2 ounces
Infus. Buchu	12 drams

Sig.—Winegrassful three or four times a day.—*Prof. A. J. C. Skeen.*

URTICARIA:—Dr. Brocq recommends, in the management of urticaria the following measure; apply locally the following salve:

Carbolic acid
 Es. Peppermint, aa.Gr. xv.
 Oxide Zinc
 Lanolin, aa.5 drams
 Pure Vaseline2 ounces

At the same time, prescribe each day from two to six of the following pills:

Muriate Quinine
 Ergotine, aa.Gr. 11½
 Ext. BelladonnaGr. 1-6 to 1-8

Before applying the ointment, one may apply locally a lotion with vinegar, cologne water or chloral as a base.—*Exchange*.

PERSONAL MENTION.

Dr. W. O. Roberts has been spending a short time at Wequetonsing, Mich.

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Dr. C. B. Spalding has returned from a visit to friends in Danville.

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Dr. M. L. Ravitch has returned to the city after a short absence.

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Dr. Chas. Vance has returned to Lexington after a short visit to Dr. Barnett Owen in the Highlands.

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Dr. Virgil E. Simpson has bought a house on Hepburn Ave., and will take possession September 1st.

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Dr. and Mrs. Bernard Asman have moved into their new home, on the Bardstown Road, at Eastern Parkway.

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Dr. Chas. Eager has gone to Mt. Eagle, Tenn., to spend the rest of the summer.

Dr. J. M. Ray, who has been in Europe for the last three months, is expected home September 12st.

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Dr. Fred L. Koontz, who recently underwent an operation for appendicitis at Norton Infirmary, has about recovered.

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Dr. John C. Rogers and family are spending a few days with his parents at Petersburg, Boone County, Ky.

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Dr. Ewing Marshall and Mrs. Marshall and Misses Alice, Kitty and Evelyn Marshall and friends are in Northern Michigan to spend two weeks.

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Dr. S. B. Hays and wife and friends who have been at Cape May and other Eastern points for the last two weeks, have returned to the city.

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Dr. Rowan Morrison and friends will leave on Monday for Frankfort, where they are going to attend a house-party which Miss Emmie Scott will give.

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Dr. A. E. Gardner has returned from Morgantown, Ky., where he was called to the bedside of his mother-in-law, who was recently injured in a runaway accident.

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Dr. and Mrs. J. T. Dunn have returned from Chicago, Ill., and Rochester, Minn., where Dr. Dunn has been attending clinics.

BOOK REVIEWS.

PRACTICAL DIETICS: WITH REFERENCE TO DIET IN DISEASE. By Alida Frances Pattee, Graduate, Boston Normal School of Household Arts. Special Lecturer at Bellevue, Mount Sinai, Hahnemann, and the Flower Hospital Training Schools for Nurses, New York City; St. Vincent de Paul Hospital, Brockville, Ontario, Canada. Fourth Edition. 12 mo., cloth. 300 pages. \$1.00.

This book is a valuable adjunct to the sick room. It is an important guide to the physician and student, and could be most

advantageously used by the laity. It outlines the proper preparation of food for the invalid, and being so clear in detailing the various methods of food preparation that it would be almost impossible for you to be misled in the directions. The author has quoted from the diet lists of the most noted dieticians of the country. The diet lists and recipes make the book very useful. Diet in infancy and childhood is interestingly and intelligently spoken of. The book has been adopted by the United States and Canadian governments for use in the medical department of the army. It is likewise used by many of the hospital training schools.

BACTERIAL FOOD POISONING: A concise Exposition of the Etiology, Bacteriology, Pathology, Symptomatology, Prophylaxis, and Treatment of So-called Ptomaine Poisoning. By Prof. Dr. A. Dieudonne, Munich. Authorized translation, by Dr. Charles Frederick Bolduan, Bacteriologist, Research Laboratory, Department of Health, City of New York.

That most interesting subject, ptomaine poisoning, is fully discussed by the author, who sets forth in strong evidence his explanation of this condition. His conclusions are finely drawn and, we feel, quite accurately. One is well paid for the reading of this book in that it fixes in the mind a better and clearer understanding of the pathology and bacteriology of food poisoning. Meat, ice cream and fish poisoning are treated in a most satisfactory manner.

BORDERLAND STUDIES. By George M. Gould, M.D., Author of a Series of Medical Dictionaries, Biographic Clinics, etc. Vol. II, pp. 311. Philadelphia. P. Blackiston's Son & Co. 1908.

The author has endeavored to point out in this volume certain conditions which are baneful to mankind, and that the relief of the same is to be found to a certain extent in the unremitting influence of the medical profession. Dr. Gould is the most facile writer and his work is highly entertaining and instructive. It is a book that the general public may well read with profit. The book shows an enormous amount of labor in the compilation of statistics and proof of facts which are most positive. Some of the data is beyond the scope of medicine, which makes the reading most pleasant. The forceful manner of the author is strongly in evidence throughout the entire work.

MODERN SURGERY, GENERAL AND OPERATIVE. By John Chalmers, D. A. Costa, M.D., Professor of the Principles of Surgery and Clinical Surgery, Jefferson Medical College, Philadelphia, Pa. Fifth edition; thoroughly revised and enlarged, with 872 illustrations. W. B. Saunders & Co., Philadelphia and London.

In the revision of this book the work has been carefully performed, which makes the same strictly up to date. Many of the chapters have been altered. Much new material has been added, making the volume very thorough and complete. New cuts, some in colors, have been added, containing in all eight hundred and seventy-two. As a writer Dr. DaCosta needs no introduction to the medical profession. It is a book that should be frequently consulted and in so doing the reader will be paid many times for the trouble.

MANUAL OF THERAPEUTICS. Park, Davis & Co., Detroit, Mich. 1909.

This is a valuable reference desk book which should be in the hands of every practitioner; it contains an immense amount of useful information. The first thirty-eight pages of the book, entitled "Aids to Memory," contains much that is worth while. Several pages are devoted to Therapeutics and Materia Medica, being condensed and arranged in a most compact and available form. The Manual itself is a well printed volume, bound in flexible leather containing about 620 pages. The publishers will be glad to furnish this book free to physicians upon their request.

THE URINE. Memminger. P. Blackiston's Son & Co., Philadelphia, Pa.

This book is rapidly gaining in popularity. It is a reliable guide to the student and busy general practitioner. The subject matter is well selected, its chapters on the various pathological conditions of the urine are well written and embrace material that is particularly valuable. The book is not voluminous, but is a concise and important treatise on urinary work.

When you fail to cure by Quinine a case of supposed Malaria Fever, it is not the drug that is at fault; it is the diagnosis. Quinine, therefore, is not only of value in treatment but also in diagnosis. Any fever which persists unmodified after 48 hours dosing with Quinine is not Malarial Fever.—*Manson*.

ACKNOWLEDGMENTS.

- "Our Dumb Animals;" Boston, Mass. August, 1909.
- "Disorders of Metabolism and Nutrition;" Dr. H. Strauss.
- "The Government Control of Tuberculous Patients in Pennsylvania," Samuel G. Dixon, M. D.
- "The Prevalence of Pellagra in the United States;" C. H. Lavinder, M.D.; C. F. Williams, M.D.; J. W. Babcock, M.D.
- "Disorders of Respiration and Circulation;" Von Neusser. E. B. Treat & Co. New York.
- "State of Pennsylvania, U. S. A." Report of the Commissioner of Health. 1907. Harrisburg Publishing Co.
- "A Sarcoma of the Naso-Pharynx." W. K. Simpson, M.D., New York City.
- "Manual of Diseases of the Eye for Students and General Practitioners;" Chas. H. May, M.D. Sixth Revised Edition. Wm. Wood & Co. New York City.
- "Epidemic of an Urticarioid Dermatitis Due to a Small Mite (*Pediculoides Ventricosus*) in the Straw of Mattresses;" Joseph Goldberger, M.D.; Jay F. Schamberg, M.D.
- "A Case of Laryngeal Stenosis in the Adult, Successfully Treated by Intubation; Continuous Wearing of Tube for Four Years." W. K. Simpson, M.D., New York City.
- "Medical Jurisprudence; Forensic Medicine and Toxicology;" R. A. Witthans, A.M., M.D.; Tracy C. Becker, A.B., LL.B.; Second Edition; Volume 3; Wm. Woods & Co., New York City.
- "A Case of Laryngeal Diphtheria, Necessitating Intubation, Complicating Cerebro-Spinal Meningitis in an Adult." Dr. W. K. Simpson, Prof. of Laryngology, College of Physicians and Surgeons, New York City.
- "The Clinical Diagnosis of Tuberculosis of the Tonsil." Lee M. Hurd, M.D., New York, with some remarks upon the Microscopic Diagnosis. Jonathan Wright, M.D., New York City.

LEPROSY.

In a recent issue of the Medical Record, Dr. L. Duncan Bulkley writes of this most interesting subject. He claims that the great dread of this loathsome disease has been excited by the many writers of fiction and that on account of such literature, the popular prejudice in this direction has likewise been shared by many physicians. The prejudice has undoubtedly been fostered by the fact that in many countries it has seemed advisable to provide special hospitals for lepers. The word "leprosy" strikes more terror into the heart of its victim or suspected victim and also into the mind of the layman, or even physician, than almost any other disease known, yet it bears no comparison to either cancer, tuberculosis or syphilis, in the mental distress which it should cause those afflicted. In this climate it is really a harmless affection. Dr. William H. Welch, of John Hoskin's Hospital, remarks: "Leprosy is practically the least contagious of all the infectious diseases."

The writer fully discusses and brings forth evidence to prove that the leprosy that we know to-day is not the leprosy of biblical times and as referred to in the Bible. He recites incidents to show that the disease is not as contagious as was formerly supposed. He says, however, that the manner in which leprosy is acquired is not definitely understood. For neither race, climate, soil or hygiene can be charged, so universally spread is the disease; hereditary has been excluded by many observers. "There is one more great means by which the organism may enter the system, and that is through food or drink." For many years it has been claimed that the disease was conveyed through the eating of fish, raw or possibly putrid, and the writer is inclined to believe that this theory offers the most scientific explanation of the propagation of the disease. He believes that the investigation of Mr. Jonathan Hutchinson, of London, has done much to enlighten us upon this subject, whose investigation of the articles of food used in leprous districts has proved invariably to be that of fish.

In the feeding of infants, in difficult cases, one must rid himself of the notion that the food can be prescribed according to the infant's age or even its weight; the only reliable guide is the condition of the digestive organs at the time. One must begin with the best possible food at the time, and get to the ideal food as soon as circumstances will permit.—*L. Emmett Holt.*

SOCIETY PROCEEDINGS.

*West End Medical Society, Stated Meeting July 13, 1909;
the President, Dr. J. B. Lukins, in the Chair.*

REPORT OF CASES.

DR. F. H. JOHANBOEKE: I have a case in the person of an old lady, 65 years of age, who lives in the country and who has been under the care of another physician. She was brought to the city, with the understanding that this physician was to see her only when called, and that in case of emergency she was to call some one else. I was called to see her one morning and found that for two or three days she had been suffering with pain in the upper portion of the body, radiating into the scapula and down the arm. She had no temperature and her pulse was pretty good, but the pain was excruciating. It looked like an attack of rheumatism, and she gave a history of having had rheumatism before. There was no swelling. I treated her from this standpoint, but had to give her morphia to enable her to get rest. Usually, the pain would grow worse between six and seven o'clock in the morning, and nothing but morphia would relieve her. She has gotten better, but I do not believe now that it is rheumatism, but a neuritis. Her arm has undoubtedly become somewhat atrophied; it is a good deal smaller than the other arm. At one time, during the period from Wednesday of one week to Saturday of the next, she suffered no pain. I have been using electricity on her for some little time. I have stopped all anti-rheumatic remedies of every kind. The pain began again last Saturday and that day and Sunday she suffered a good deal with it. I would like to know what to do to relieve that pain.

DR. SHERRILL: Has she had any fever at any time?

DR. JOHANBOEKE: No, sir; not a bit. She has a cystitis. I have not examined her, but I think she has a prolapsed bladder from a tear or rupture in the vagina at the birth of the first child she had. I saw her for the first time in May. She is now up and about, but for three weeks she was confined to her bed and could not even hold her arm in a sling. The only way she seemed to get re-

lief was by holding her hand straight up in the air. She had an attack of sciatica some years ago, on the left side, but this thing is undoubtedly a neuritis; I do not believe it is rheumatism. I have stopped everything else and am simply giving her external applications.

DR. H. L. READ: About two weeks ago Dr. Lukins received a call, but, as he was out of town, I answered it, and found a boy with a broken limb. This boy was about ten or twelve years of age. Last fall he was struck by a train and his foot crushed. Drs. Luken and Bizot amputated leg about the middle third. On this occasion I found that he had fallen and broken the same leg about two inches above the knee. I have set limbs, but it was the first time I ever set a stump. I called Dr. King to give chloroform, and put the leg up in plaster of Paris. I looked at it Saturday morning, eight days after injury, and found it in good apposition.

The Mississippi Valley Medical Association:

The thirty-fifth meeting of the Mississippi Valley Medical Association, which is to convene in St. Louis October 12, 13 and 14 next, gives promise of being an exceptional event in both scientific and medico-social ways. Preparations are being made made by the St. Louis committees, under the direction of Dr. Louis H. Behrens, for a considerably larger attendance than the society has before had, and an increase in membership of decided character is expected. This association has always largely limited its attention to the scientific rather than to the political and other phases of medicine and, while it is so conducted, it is in no sense in competition with other bodies, its membership might well be tremendously increased and that to the scientific betterment of the profession, and to no disadvantage to other organizations.

The programs which will be presented are exceptional in their excellence. The orations in medicine and surgery have always been a distinct feature of the meetings of this association, the choice of men who shall present these important addresses this year bears out the association's reputation; Dr. Sherman G. Bonney, of Denver, will deliver the oration in medicine and Dr.

John B. Deaver, of Philadelphia, that in surgery. The joint session of the two sections which proved such a success at the Louisville meeting will be repeated at St. Louis; one morning will be devoted to such a session at which a symposium on Exophthalmic Goitre will be presented and the subject considered in all its phases, the discussion being introduced by four papers by authorities who have done special investigation on the subject. The parathyroid glands will naturally occupy somewhat of the attention of the association at the same meeting, a fifth paper thereon having been assured.

This meeting follows the Centennial Week of St. Louis and the local committees are finding it possible to have numerous of the attractions of that week continued for the benefit of the association. While it is not proposed that the social shall interfere with the scientific, there has been prepared a scheme of entertainment which will be up to St. Louis' high standard of hospitality. Especial effort will be made to make the entertainment of wives, daughters and other ladies accompanying members complete so that they may be pleasantly occupied while members are busied with scientific work. It is hoped that they may come in considerable number, and come with the assurance that their coming is desired.


The sessions, offices and exhibit hall of the association will be in the Southern Hotel, which has been chosen as headquarters. The Southern can entertain the whole membership if reservations are made sufficiently in advance, the hotel is easily one of the best and the most spacious in the country, and it is hoped that it may be the selection of the members. For those who prefer to stop elsewhere, the Planters, American, Laelege and Maryland will be found very convenient to the place of meeting.

St. Louis and the St. Louis profession bid you welcome.

Infant mortality and deaths from typhoid fever are fewer in Louisville this year than for the last three years, according to a comparative table, which has been compiled by Health Officer T. H. Baker from the records of the city health office. The general cleansing of the city, the care exercised to keep the pumps in sanitary condition, and the other safeguards which have been thrown around residents of Louisville under the present administration, to say nothing of the vigilance which is exercised over the milk supply, have resulted in better health conditions than for a number of years.—*Lancet-Clinic*.

ANTIPYRETIC, ANALGESIC AND ANTISEPTIC POWER.

In speaking of the treatment of articular rheumatism, Hobart A. Hare, M. D., Professor of Therapeutics in the Jefferson Medical College and Editor of *The Therapeutic Gazette*, says: "Any substance possessing strong antipyretic power must be of value under such circumstances." He further notes that the analgesic power of the coal-tar products "must exert a powerful influence for good." The lowering of the fever, no doubt, quiets the system and removes the delirium which accompanies the hyperpyrexia, while freedom from pain saves an immense amount of wear, and places the patient in a better condition for recovery. The researches of Guttman show conclusively that these products possess a direct anti-rheumatic influence and among those remedies, antikamnia stands pre-eminent as an analgesic and antipyretic. Hare, in his *Practical Therapeutics*, says: "Salol renders the intestinal canal antiseptic," a condition absolutely essential in the treatment of rheumatism. In short, the value of salol in rheumatic conditions is so well understood and appreciated that further comment is unnecessary. The statements of Professors Hare and Guttman are so well known and to the point and have been verified so often, that the uses of "Antikamnia & Salol Tablets" are at once apparent. Each of these tablets contains two and one-half grains of antikamnia and two and one-half grains of salol. The proper proportion of the ingredients is evidenced by the popularity of the tablets in all rheumatic conditions.



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THE AFTER CARE OF SUMMER AILMENTS.

It is probably the exception, rather than the rule, that a baby passes through its first two summers without at least one sharp attack of gastro-enteric disturbance. In severity, such attacks vary from a slight bowel "looseness" and occasional eructation of nourishment, to a true choleraic diarrhœa, in which sudden and unexpected vomiting, rice water discharges, marked prostration and sunken fontanelles are the symptoms that precede dissolution. In all except the fulminant cases referred to, recovery ensues, if intelligent dietetic and medicinal treatment is instituted. In many instances, however, the considerable drain on the systemic vitality, from the frequent discharges and the enforced cutting down of the child's nourishment, brings about a more or less anemic condition, and unless restorative measures are adopted, convalescence is apt to be slow and protracted. Ordinary hematinics, in such cases, are apt to do more harm than good, because of their irritant effect upon the stomach. Pepto-Mangan (Gude), however, is so palatable, readily tolerable and generally acceptable, that the infant can and will take it readily and without demur. Constipation does not result from its administration and the beneficial effects are noted promptly and decidedly, in the form of increased vitality, better color, a return of spirits and a better assimilation of nourishment.

PASSIFLORA.

In all nervous affections, Daniel's Concentrated Tincture *Passiflora Incarnata* acts primarily as a sedative and anti-spasmodic, and secondarily as a stimulating, invigorating food, eagerly appropriated by the deprived system. In cases of insomnia, *Passiflora* causes complete rest by giving flexibility to rigid and rigorous nerves, allowing the patient to sleep comfortably and producing no injurious effects from which he will suffer on awaking. In nervousness from dysmenorrhea, dentition or sudden shock, *Passiflora* produces the most desired results. It is the best remedy known to the profession for suggesting natural sleep.

A CONVENIENT CHLOROFORM PACKAGE.

Much interest is being manifested in the chloroform dropper-ampoule marketed by Parke, Davis & Co., and which, in the opinion of a good many physicians and surgeons, is the most convenient and practical chloroform package that has ever been introduced to the profession. The new device is at once a hermetically sealed container and a perfect dropping-bottle that can be carried about in the emergency bag at all times in readiness for immediate use. It supplies in portable form enough of the anesthetic for one service—about thirty grammes. The desirability of such an individual package and its superiority over the ordinary amber, cork-stoppered bottle heretofore supplied is appreciated when one remembers that chloroform in broken packages rapidly deteriorates under the influence of air and light and becomes contaminated with chlorine decomposition products.

The dropper-ampoule is, furthermore, a very economical package, as loss by evaporation, spilling of contents, and deterioration are practically eliminated. The chloroform may be dropped directly upon the mask with ease and accuracy. The anesthetist has perfect control of the outflow and is enabled to regulate at his discretion the intervals between drops.

Physicians desiring further information relative to the dropper-ampoule are advised to write to Parke, Davis & Co., for their illustrated circular descriptive of the new packages, addressing them either at their main laboratories, Detroit, Mich., or any of their branches.

THE GENERAL PRACTITIONER AS A DERMATOLOGIST.

Benjamin F. Ochs of New York believes that the general practitioner would benefit in the manner of diagnosis of general as well as skin diseases if he would make as careful a clinical study of skin diseases as he does of some of the other specialties. Histories are misleading with reference to skin diseases. They should be diagnosed by the appearances alone, and these appearances will often give a clew to the general diseases of the patient. Diseases of faulty metabolism in children are recognized by their cutaneous symptoms.—*Medical Record*, July 31, 1909.

THE American Practitioner and News.

"NEC TENUI PENNĀ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

SAMUEL BROWN HAYS, M. D.,

—Editors—

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CHOLECYSTITIS.

By A. E. GARDNER, M. D.,
LOUISVILLE, KY.

By the term cholecystitis we mean to include an inflammation of both the gall-bladder and bile ducts. It is practically impossible to conceive of an infection of the one without more or less involvement of the other. This condition has been the subject of much thought and investigation by the medical fraternity for the past decade and many valuable facts have been learned thereby. Yet there still remains many obscure features, especially as regards etiology and pathology.

The gall-bladder is no longer considered as a reservoir for the bile, but it is really a part of the excretory duct, and is so situated as to act as a safety valve for the overflow of bile during the active stage of digestion, for it is during this period that the flow of bile is most active, just as we have an overflow of saliva during the act of mastication. It has but one duct opening into it, so that the bile must go in and come out through the same channel. We have learned from physiologists, that the liver is constantly secreting bile, but every abdominal surgeon

knows that it is only at certain times after eating that the flow of bile through the artificial fistula in the abdominal wall is profuse. It is obvious, therefore, that the gall-bladder does not act as a reservoir for the bile during the quiescent stages of digestion, but that the bladder has no function to perform which differs materially from that of the gall-duct, and that it is only a diverticulum from the ducts. This is further demonstrated by the fact that patients who have a biliary fistula know when to prepare for an overflow of the bile, and this is always shortly after the ingestion of food. The anatomy and histology of its mucous membrane does not differ from that of the bile-duct, being supplied with the same kind of epithelium and the same number of layers and tissues. The only difference consists in the composition of bile, that in the gall-bladder containing a greater percentage of mucus and cholesterine than that found in the ducts. Why this is true we are unable to explain, because the gall-bladder only contains mucus-secreting glands. We are told that many of the lower animals have no gall-bladder, and it has been removed from the human being many times without injury, and its only secretion was found to have been mucus. It is evident, therefore, that when it is inflamed it is not due to retained excretion, so much as it is due to infection or other causes.

The gall-bladder, from a mechanical and functional standpoint, is the least important part of the biliary system, and is really the only part that is not essential. It has often been compared to the vermiform appendix and, like it, its functions are purely speculative, and not apparent. In my opinion, it bears about the same relation to the bile ducts as the appendix does to the cecum. This is true not only in an anatomical and physiological sense, but also in its clinical relations. In a surgical sense it is second in importance to the appendix, and demands more attention than the remaining abdominal viscera.

In a mechanical and clinical way we must consider this subject from three important standpoints. (1) That the functions of the bile-ducts are to convey the bile from the liver to the intestines. (2) That while the gall-bladder is a part of the gall-ducts, it occupies a subsidiary po-

sition and is not an essential or necessary part, and the function of the gall ducts is in no wise affected or compromised by its presence or absence. (3) The relation of the pancreatic duct to the gall-duct. The latter is a most important consideration, since cholecystitis associated with inflammation of the bile-duct, also produces in many instances similar changes in the head of the pancreas on account of the intimate relation the common duct bears to this gland. This is especially noticeable if there is a mechanical obstruction at the ampulla of Vater. An obstruction at this point always produces a jaundice of a more or less marked degree and the pressure and irritation consequent thereto always excites inflammation of the structures in and around the head of the pancreatic gland.

The etiology is of especial interest since upon this hinges, in a great measure, the different methods of treatment. The disease is, however, always infectious, and most all forms of micro-organism have been found in the gall-bladder and ducts. The most frequent of these being the colon bacillus. The disease is frequently a complication or a sequela of typhoid fever, pneumonia and other acute infectious diseases. There appears to be a diversified opinion among medical writers as to the possibility of infection of the biliary ducts by the colon bacillus. Some contending that nature has so well guarded the opening between the bile-duct and the bowel that it is impossible for infection to occur from this source. It is not unreasonable to suppose, however, that infection may occur in this way.

Another recognized channel of infection is through the blood. It is natural to expect that blood in the portal vein coming as it does from the intestines, would be full of bacteria, and it has been demonstrated by Fütterer that one of the functions of the liver is to excrete these bacteria. He demonstrated that germs introduced into the general or portal circulation are eliminated largely through the liver by way of the bile.

Adhesions between the bowel and gall-bladder would offer a good channel of infection, but these most usually are the result, rather than the cause of inflammation in these structures.

An injury to the mucosa by gall stones is a predisposing causative factor. Another predisposing factor is extension of inflammation resulting from a gastro-duodenal catarrh. As result of an inflammation in these structures the mucous membrane becomes thickened and obstruction to the outflow of bile results. The consequent retention increases the consistency and concentration of bile, and certain constituents that were before held in suspension are thrown down. These elements consist principally of cholesterine, bile pigment and the salts of lime, soda, potash, and perhaps traces of iron and copper. The natural result is the formation of gall-stones.

It has been only within the last few years that the medical profession has realized the importance and frequency of infective diseases of the bile-ducts. It is a far more frequent disease than we formerly thought. It was for many years that we called appendicitis, peritonitis and tubal pregnancy, hematocele. I believe it is quite possible that we have been and are yet, many of us, calling cases of cholecystitis by some other name or names. The list of diseases in the right hypochondriac regions does not compare in number with those of the right inguinal region, yet there are many cases of "cramps in the stomach," "colic," "liver complaint," "pleurisy," and "kidney complaint" attended by fever, pain and vomiting, which in reality are nothing more nor less than some form of inflammation of the bile ducts or the pancreatic gland. It becomes, therefore, just as important for us to know the location of the Mayo-Robson point as it is to know the MacBurney point.

In mild catarrhal cases the symptoms are slight fever, pain in the hepatic region, tenderness and enlargement of the gall-bladder and occasional jaundice in a greater or less degree. In the suppurative form there is severe paroxysmal pains with fever of a septic type, leucocytosis, enlargement and tenderness and in some cases abdominal distension and jaundice. In clearly defined cases the symptoms are those of acute inflammation in the right hypochondriac region. A chill followed by a rise of temperature, pain, tenderness and a tumor in the region of the gall-bladder are indicative of cholecystitis. Vomiting

and jaundice may occur. Like all other acute conditions of the abdominal viscera, the symptoms in atypical cases are obscure, and the diagnosis may be difficult or impossible. It is most likely to be mistaken for appendicitis because it resembles this disease in many respects very much, and for which it has often been treated and even operated upon. In doubtful cases of abdominal trouble in which it is a question between obstruction, a tumor or an inflammation, a blood count may show a leucocytosis, which is quite conclusive evidence of the presence of pus. This also holds true in typhoid complications because leucocytosis does not occur in uncomplicated cases of typhoid.

Internal treatment of cholecystitis and allied conditions is very uncertain. The mild catarrhal cases in which there is no fear of bad results, can be successfully treated in this way.

I do not agree with those surgeons, who insist that immediate operation is the ideal mode of treatment in all cases of gall-bladder disease. Much can be accomplished by judicious diet, bathing, and exercise. The former should consist of a light, concentrated, nutritious food, free from fats, sugar, starches and pastry. Systematic exercise (especially horseback riding) in the open air is quite helpful in some cases, as it stimulates the flow of bile. Morphine should never be given under any circumstances until the diagnosis is made. If the case is acute and severe, with positive signs of a septic condition, an immediate operation is advisable. Cases in which there is suppuration are most dangerous, and should submit to an immediate operation.

While the great majority of these suppurative cases die without operation, some of them, after a prolonged and stormy struggle, recover. I recall two cases in my early practice in both of whom I had made a diagnosis of hepatic abscess, which subsequently proved to be empyema of the gall-bladder, with gall-stones. In one the abscess pointed into the right lung and the purulent matter was expectorated from the bronchi. In the other the abscess broke into the stomach and the pus was vomited. Both patients (who were women past the age of forty)

after several months, made a complete recovery. These abscesses, however, if allowed to pursue their own course usually rupture in the general peritoneal cavity, and the patient dies from septic peritonitis. All cases of long standing obstruction or compression jaundice should be operated upon, if the patient's condition will warrant it.

While many of these cases improve and some of them get well from medical treatment (or in spite of it), this is essentially a surgical disease, and should always be so considered. Cases having recurrent attacks, like similar cases of appendicitis, must sooner or later submit to operation. A mild saline laxative or a dose of castor oil, with rest in bed, is the best treatment for a non-surgical case. We can accomplish nothing in this trouble by the indiscriminate administration of the innumerable list of drugs which have from time to time been used in its treatment.

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SOME THOUGHTS ABOUT DYSENTERY.

BY PHILIP F. BARBOUR, A.M., M.D.,

PROFESSOR OF DISEASES OF CHILDREN,
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Statistics show that more than half of the mortality in infancy and childhood is due to various diseases of the gastro-intestinal tract. Little by little we have been enabled to reduce the high mortality by the better knowledge and application of the laws of feeding, by securing better and purer milk supply, by more intelligent handling of the diseased conditions in the bowel. In spite of all this, we still find that there is a distressingly large proportion of deaths that must be laid to that condition which is perhaps better described by the one word dysentery. We shall use the term dysentery to describe that group of symptoms which is sometimes called ileo-colitis, colitis, gastro-enteritis, flux, etc., the characteristic symptoms being too frequent movements from the bowels of mucus and blood, accompanied by tormina and tenesmus.

There are a number of moot points in connection with dysentery which are far from having been settled. Per-

haps the statement of the question will enable us to focalize our attention upon the answer, therefore, we shall approach our subject in the attitude of inquirers rather than authorities whose *ipse dixit* will settle the problem.

As to the causation of dysentery there has arisen quite a good deal of difference of opinion. There are those who believe that the Flexner bacillus and cognate species is the cause of the great majority, if not all, of these cases. On the other hand, the German school, following the leadership of Czerny and Feller and Finkelstein, have laid the symptoms of this disease at the door of alimentary intoxication. While still others claim that they have not been able to find bacilli of the Shiga-Flexner type in more than a very small percentage of cases, and who also cannot agree with the German viewpoint.

To complicate the matter still further, it is universally acknowledged by clinicians and pathologists that there is no certain connection between the character of the stools and the lesions in the bowel. There may be the most severe and fatal attacks which upon autopsy will show little, if any, pathological relation to the result. On the other hand, autopsies will frequently reveal a severe inflammatory condition of the bowel of which there have been comparatively few or minor clinical symptoms.

This lack of agreement between the symptoms and the pathologic lesions has prevented a scientific classification of the various bowel diseases. It will certainly mark a great advancement in our conception of the subject when someone discovers the clew to the labyrinth of symptoms and lesions.

The German school has called out attention to the marvelous effects of the changes that may occur in the intestinal contents, which effects are seen in the various symptoms of intoxication. They have gone most fully into the ultimate chemical changes in the molecules of the food, and have been able to construct from this a very plausible theory to explain the conditions met with in the intestine. They hold that the proteid molecule is decomposed normally by the proper secretion into simpler molecules, which are recombined to form the proteid substance or substances which are normal to that animal. This is opposed to the old view which held that the chemical pro-

cesses in the body were always analytic and never synthetic, a view which has been completely contravened by our present knowledge of physiological chemistry. Czerny and Keller insist that the proteid molecule under abnormal conditions may break up into different fundamental combinations and be recombined into intermediary metabolic products which are toxic. They have developed certain characteristic symptom groups indicative of certain proteid decompositions, and these they have classed under the general name of proteid injury. Likewise, they have described the results from fat and sugar as fat and sugar injuries. They claim that these abnormal, metabolic products from the highly complex proteid, fat, or sugar molecules will account for the various types of diarrhoea, and that germs play only a secondary and unimportant role in the causation or continuance of intestinal diseases. Finkelstein, by most careful analysis, has shown that there are injuries to the system which may result even from the inorganic salts. They do not seem to have laid sufficient stress upon the cause of the abnormal metabolic processes enumerated above. They believe that an excess of proteid on account of the inability of the digestive secretions to cope with excessive demands, results in the formation of these intermediary poisonous products. One can hardly gainsay that overeating will tax the digestive organs to such an extent as to incapacitate them for the proper performance of their function, but it has not yet been demonstrated that pepsin and hydrochloric acid, or tryptase, in their action upon the proteid molecule ever produce other effects than the analysis of the molecule into certain definite cleavage products and the recombining or synthesizing them into definite homogeneous compounds. Do these intermediary metabolic products arise from a failure of the proper action of the pepsin, say, or is the pepsin itself changed in its enzymic properties by diseased conditions of the gastric mucosa, or are these intermediary products the result of the action of bacteria upon the proteids, or may they condition by their presence the action of the various enzymes? These are some of the points which have not been so absolutely settled as to make us follow unques-

tioningly the diets of the Germans. No one can doubt that such studies have increased our knowledge of the deeper physiologic and pathologic processes and have enabled us to understand much that has heretofore been in the realm of the unknown and unexplainable.

The researches of Flexner at the Rockefeller Institute have explained in a way the action of the Flexner bacillus in producing the symptoms of dysentery. Briefly, his investigations show that the Flexner bacillus produces at least two toxins, that the bacillus seems to have no local effect upon the mucous membrane of either the small or large bowel, and that the toxins which are elaborated in the small bowel principally, are absorbed and carried to the liver, which again excretes them into the alimentary tract, where they are again absorbed, but the increasing quantity is carried further and further down into the ileum. Some of the toxin goes past the liver and is circulated in the blood, and is finally eliminated through the mucous membrane of the colon. The toxin attacks this mucous membrane and produces a severe inflammation and ulceration, the characteristic dysenteric ulceration of the colon. A fraction of the toxin seems to have a specific effect upon the nervous system of rabbits and causes convulsions and death. There are certain therapeutic questions which naturally arise from this explanation of the action of the Flexner bacillus. Is it not important to purge as freely as possible so as to remove all of the bacilli and also all of the toxins? Would it be safe to administer opium to control the bowel which locks up the bacteria and allows a greater quantity of toxin to be formed, which of course must be eliminated through the inflamed mucous membrane? Is there any objection to using opium to control the peristalsis of the colon and thus allowing the ulcerated surface to get the rest necessary to securing a healing process in the ulcer, after all of the bacteria and the toxins have been removed? How can we know when the bacteria have ceased to produce toxins? Is it possible that other bacteria of the colon type produce dysentery by a similar action upon the mucous membrane?

Clinically the treatment of dysentery by saline purgation and small doses of the mercuric salts has proven

the most satisfactory. There are several possible explanations of the action of the mercuric salts. It may be said in this connection that calomel is more frequently injurious than helpful, and most of the leading German clinicians never use it in such cases, but the mercuric salts, such as the bichloride or biniodide exert an antiseptic action in the upper bowel which is valuable in reducing the number and virulency of the bacteria. They may also aid the liver in its fight against the toxins which are being handled by the liver, and experiments show that these two salts of mercury are eliminated eventually through the mucous membrane of the colon by the same cells which eliminate the toxins of the dysentery bacteria. Is it possible that they will antagonize the toxins at that point? It is certain that their proper administration will diminish very greatly the amount of blood oozing from the inflamed surface and will lessen the tormina and tenesmus, whatever the explanation of the fact may be.

The limits of our paper will not allow further discussion of other important phases of our subject.

Abstract of Some of the Principal Papers Read Before the

American Proctologic Society,

Eleventh Annual Meeting, Atlantic City, N. J., June 7 & 8, 1909.

"PRURITUS ANI, ITS ETIOLOGY AND TREATMENT."

T. Chittenden Hill, M.D., of Boston, Mass., said that he was convinced that Pruritus ani was practically always caused by some local lesions of the pelvic colon or rectum, which produced an unnatural moisture about the anal region.

He said the most common sources of irritation, in the order of their frequency, were as follows: (1) Superficial ulcerations and abrasions of the anal canal. This

lesion he found in about 75 per cent of all cases and attributed the frequency of its occurrence to the method of the proctodenum with the blind end of the bowel. (2) Rectitis and sigmoiditis, which are the sequellae of habitual constipation, often bring about a pruritus, since the passage of flatus allows a small quantity of mucus to escape. (3) Hypertrophied anal papillae and inflammation of the crypts of Morgagni are more often the cause of pruritus ani than is generally admitted. (5) Small polyps of the anal canal, protruding internal piles, prolapse of the rectum and anal fissure, do occasionally produce itching about the anus, but it is exceptional to find them the sole cause of chronic pruritus ani.

He stated that in order to attain permanent results, it was essential that the treatment be directed to the removal of the exciting causes. At the same time the skin in the immediate vicinity of the anus should receive appropriate treatment, since it is nearly always in a state of acute inflammation from scratching or so much infiltrated and thickened as to require stimulating applications—nitrate of silver and ointments, in order to bring about a return of a normal epidermis.

“BALL’S OPERATION IN THE TREATMENT OF
CASES OF PRURITUS ANI WITH REPORT
OF A CASE IN WHICH NECROSIS OF
THE FLAP OCCURRED.”

BY LOUIS J. KROUSE, M.D., OF CINCINNATI, OHIO.

The case reported was that of a severe intractable case of Pruritus Ani in a man well advanced in years, who underwent the above operation for pruritus with the result of having the anal flap necrose. He went into the pathology as to the cause of the necrosis and came to the conclusion that the trouble lay in the poor supply of blood to the anal flap. He claimed that there is no anastomosis between the blood-vessels from within the anus and those of the skin. The writer called attention to the fact that Sir Charles Ball’s operation has recently been modified so as to prevent sloughing of the anal flap.

A new method of operating was proposed by the author which is somewhat different from that of Sir Charles Ball and of that of Dr. Thos. Chas. Martin, and consists: first, in doing away with the elliptical incision which cuts off the greater part of the circulation from the diseased area; and secondly, in making six to eight linear incisions through the skin into the substaneous connective tissue. These linear incisions, beginning at a point outside of the point of irritation, follow the course of the radii of a circle whose center is the anal canal. The skin lying between the adjacent radii are then undercut until the whole affected area is undermined. Should the dissection be difficult and more room be needed, every alternate flap could then be loosened at the anal margin and dissected outwards toward the periphery. After all the adhesions are loosened and the bleeding has been stopped, the parts are again replaced and sutured.

The advantages of this operation over the original one of Ball, lie mainly in the better nourishment of the flap. The blood must come from the circumference and must radiate towards the anal canal.

“A CONSIDERATION OF THE PROPHYLAXIS AND TREATMENT OF CICATRICAL RECTAL STRICTURE.”

BY ALOIS B. GRAHAM, A.M., M.D., INDIANAPOLIS, IND.

Opinions were based upon the results obtained in the treatment of fifty-five cases. He stated that prophylaxis implies a careful rectal examination; a careful rectal examination implies an early diagnosis; an early diagnosis implies correct treatment, and correct treatment implies the prevention of a stricture.

When cicatrical rectal stricture is diagnosed, surgical intervention is indicated. In cases where there is no danger of infection, excision should be the choice of all the surgical measures at our command. If successful, its results are ideal because of the fact that it effects a cure by the complete removal of the stricture. In

cases where it is not safe to practice the excision method—(and there are many such cases)—complete posterior proctotomy or colostomy, either alone or combined, should be performed. While neither of these surgical measures have effected an authentic cure, yet they undoubtedly can and have effected a symptomatic cure. The excision method needs no defense as its results are all that could be desired. As for the other surgical methods, the writer was not at all pessimistic as to the results which can be obtained, if they are followed by correct and systematic after treatment.

“THE USE OF SPINAL ANESTHESIA IN RECTAL SURGERY.”

BY COLLIER F. MARTIN, M.D., PHILADELPHIA, PENN.

Who reported 87 cases in which tropacocain and stovaine were employed. The technic was given in detail. The method is not recommended where the hips of the patient have to be elevated.

Of the 87 cases, 57 were either frankly tubercular or the condition was suspected, 16 were alcoholics, 4 had anemia with from 35 per cent to 60 per cent of hemoglobin, 2 had sepsis, 2 cachexia, 2 were suffering from general debility and old age, 3 had cardiac complications and one refused to take ether.

The conditions operated upon were as follows: abscess and fistulæ, 54; hemorrhoids, 21; rectal stricture, 2; sacral sinus, 1; fissure with fistula, 2; gangrenous cellulitis, 2; anal condylomata, 2; rectal carcinoma (perineal excision), 2; and Ball's operation for pruritus, ani, 1.

The only complications observed were headache, 18 times, coming on from 1 to 3 days after operation. Only three cases had severe headache lasting over one or two days. A few cases complained of some stiffness of the back of the neck and shoulders. One patient developed a temporary oculo-motor palsy which recovered under treatment. In two cases spinal fluid was not obtained because of the difficulty in inserting the needle with spinal deformity present.

Spinal anesthesia was selected in case with pulmonary tuberculosis to avoid the congestion following the use of ether. Alcoholics were also found easier to manage than when ether was used.

Under spinal anesthesia, the sphincters are completely relaxed, there is no muscular spasm and there is an entire absence of the venous engorgement and swelling of the tissues so often seen while the patient is under ether. Bleeding is not as profuse and is more easily controlled, since all parts of the rectal cavity are as accessible as their anatomy will permit. The complete muscular relaxation reduces the traumatism to the tissues.

Spinal anesthesia is at its best when used in operations about the rectum and genito-urinary tract. Careful selection of cases, drugs of uniform strength and purity, and a careful technic will do much to re-establish the confidence of the surgeon on this method of producing anesthesia.

“VAGINAL ANUS IN THE ADULT, WITH REPORT OF TWO CASES.”

BY LOUIS J. HIRSCHMAN, M.D., DETROIT, MICH.

Dr. Hirschman reported two cases of imperforate anus with the nomalous opening occurring in the lower part of the vagina, both occurring in adults. He successfully operated in both cases, restoring the anal outlet to its normal position with a good functional result in both cases. His first case was aged 25, unmarried, and until a few months before examination did not know that she was anatomically different from other young women. She was brought up by a maiden aunt, who, while realizing that her charge was not normal, felt that as long as she was having regular bowel movements, she would put off any operative interference until later in life.

The operation in this case consisted in closing the vaginal anal orifice after dissecting the rectum free from the vaginal septum. There being present an infantile sphincter muscle at the normal anal site, an incision was made through the center of this, and by

blind dissection the tissues between it and the blind end of the rectum were separated. The rectum was then pulled down, opened and sutured to the integument. The perineum was not split open nor was the sphincter divided. A good functional result followed.

His second case was also unmarried, 23 years of age. The case was very similar to Case I, except that there was an over-development of the sphincter vaginae which gave her good fecal control. There was present in this case a small fistula connecting the anus and vulva, but not communicating with the rectum. In this case the perineum was split and the fistula dissected out. The vaginal anus was dissected free and brought down to the normal anal site in a manner similar to that pursued in Case I. The perineum was then repaired as in an ordinary perineorrhaphy. The functional result in this case was also good. The author concludes from his experience with these two cases, and realizing the very high mortality from operations for imperforate anus, in infants, that where there is some abnormal outlet for the feces present, it is far better to allow patients to go on in their abnormal condition until they grow old and strong enough for surgical interference and the correction of nature's failure.

“INTESTINAL AUTO-INTOXICATION: ITS TREATMENT BY IRRIGATION.”

BY W. L. DICKINSON, M.D., SAGINAW, MICH.

During normal digestion, there are present in the intestines peptones, crystalline bodies, aromatic substances and ptomaines, which are toxic, but changed into less toxic bodies and eliminated by the stools. Whenever their number is very great, relief is obtained by a profuse intercurrent diarrhea, while the remaining toxic bodies, having been acted upon partially by the digestive mucosa, are changed in the liver, then enter the circulation, and being further changed by the autitoxic glands, finally are eliminated through the skin, kidneys and lungs.

Many patients have suffered for years, and perhaps the greater part of their lives from constipation, and the

condition has been aggravated as they have grown older and more sedentary in their habits.

There are well-marked symptoms in the auto-intoxicated. Among the prominent are: a drawn expression; sunken eyes; frequently the so-called liver spots; often the patient is pot-bellied and the skin is dry and harsh; it is quite common to have the bowels greatly distended by gases, shortly after meals, necessitating the loosening of the clothing; the breath is frequently very offensive; the odor of the stools is sickening, while the stools are constipated, hard, lumpy, and of small caliber or semi-liquid and mushy, and upon examination mucus and membranes are found. Patients are often unable to concentrate their thoughts, and there is loss of memory. There is great fatigue, and depression of spirits. Pruritus, urticaria, eczema or furunculosis caused by intestinal auto-intoxication may be present.

These are not all the symptoms that may arise from intestinal auto-intoxication but they are sufficient to emphasize the importance of the subject, and the necessity of having the intestinal discharges examined by a competent person before and during the treatment of the patient. An examination of the urine to determine the amount of indican present in cases of intestinal auto-intoxication can be made by any physician, but there are times when a laboratory examination must be made by an expert.

The treatment must of necessity begin with careful attention to the kind and amount of food taken. Vegetables should largely replace meats, and in fact the patient will gain faster if meat is not partaken of at all. There should be a liberal use of water internally—drinking between meals two to three quarts of water daily.

The treatment is not simple and is one that requires attention and generally a long time. The routine method is the administration of calomel gr. 1-10 and podophyllin gr. 1-24 repeated every hour for eight or ten doses, followed with rochelle salt one-half ounce in six ounces of hot water every two hours, until the stools are watery. The colon should be distended with warm water containing half an ounce of soda sulphate to the quart. The pa-

tient should be in the knee-chest position. The water should flow slowly, fully distending the bowels, but not causing pain. This washing out of the bowels should be done daily for about one week and the urine should be examined again for indican, and if it is found present, the indication is that there is need of another course of the calomel and podophyllin. The bowel should be made aseptic by the use of sulphocarbolate of zinc gr. x to one quart of water used by enemata retaining as much of it as possible.

The treatment is to keep the intestine as clean as possible.

“FISTULA IN THE POSTERIOR ANAL COMMIS- SURE.”

BY J. COLES BRICK, M.D., PHILADELPHIA, PA.

Who stated that the anatomy of the posterior anal commissure is of such peculiar arrangement that ulcers or fistulas, in this region frequently do not granulate in a proper manner.

The greater part of the external sphincter muscle arises from the coccyx, and after forming the ano-coccygeal body of Symington, passes around the anus, forming a Y-shaped or triangular cul-de-sac at the posterior anal commissure, making this the weakest part of the anal circumference. The levator ani muscle is separated from the coccygeus muscle by a cellular interspace, rendering possible an easy extension of pyogenic organisms.

In ulcerations or small fistulas in the posterior anal commissure, it is the writer's custom to make a triangular incision with the apex toward the anus, rather than an antero-posterior cut. In cases of fissure in this commissure, two incisions, 1-8 of an inch deep are made down into the sphincter muscle on each side of the fissure, all fibrous tissue being removed from the fissure itself.

The physiological action is, that during defecation, the lateral fibers of the sphincter forming the triangular space are at rest, due to their division; thus saving distension of this space, and consequently no interference with healing.

CONTINUED IN NEXT ISSUE.

Recent Progress in Medical Science.

PELLAGRA AND ITS CAUSE.

The malady called pellagra, many cases of which have been recently noted in the South, especially among negroes, and which is appearing sporadically in other parts of the country, is said to have had its origin in Italy and is supposed by some to have been brought to this country by Italians. The cause has been ascribed by Italian physicians to the eating of fermented or damaged corn meal, and doctors in the South are accepting this as the correct theory, apparently, however, without much investigation of the subject.

According to the report of an Alabama physician, pellagra is a toxemic disease with gastro-intestinal symptoms and mental changes in the nature of insanity. The nervous symptoms are those of toxemic irritation of the cortex and spinal cells. The skin is affected with an erythematous eruption. The doctor has examined 590 cases within two years and reports nine of them in full in a medical journal, most of the nine having been fatal. He believes that the ailment is more prevalent in this country than has been thought and that many physicians who have encountered it have not recognized its character.

If sour corn meal is really the cause of this ailment it is rather curious that it has remained until now for the disease to manifest itself. Corn meal unquestionably does ferment under certain conditions, especially when prepared under old-time processes. In meal ground in a water mill—the method known to all pioneers and still in use in many rural regions—all the grain, including the kernel, which contains the oil, is ground up. It is this oil that in times becomes spoiled and makes it desirable to have but a small quantity of corn ground at a time for domestic use. Corn meal of the old-fashioned kind, as all dealers and experienced housewives know, must be freshly ground in order to be at its best.

With modern process meal the case is different. From this the oil is carefully extracted—a proceeding which adds greatly to its “keeping” qualities. Incidentally the process takes the “life” and much of the distinctive nutty sweetness from the grain, making the cornbread, “pone” and hoeecake of to-day articles much inferior to those that mother, or, rather, grand-

mother, used to make. This, however, does not alter the fact that the meal of commerce does not easily become damaged or musty. Especially is this true of exported meal, shippers being required to meet very strict tests. If poor meal, therefore, is the cause of the ailment in Italy it is highly improbable that there is any occasion for the prejudice against the American product which is said to have arisen there. Everything considered, it seems likely that when the matter is thoroughly investigated it will be found that the disease has some other origin. Corn meal has been a staple in this country long enough to have developed any hidden dangers a century or so ago, and the charge that it is now responsible for an offensive and dangerous malady should not be accepted without inquiry and proof.

The article above is from an editorial in the Indianapolis Star of August 26, and is an excellent review from both the etiological and economic points of view.

Of course, the United States does not merit any disapprobation of its greatest crop, Indian corn. It means food, oil, glucose, whisky, alcohol, and is perhaps, the greatest gift of the new world to the old. The potato, the tomato, cranberries and tobacco are other gifts—so also is the turkey, but Indian Corn might easily become the food of the world.

Dr. Osler in his Practice Edition of 1905, gives half a page to the disease, attributing it as "associated in some way with the use of maize (which according to most authorities) is fermented or diseased." He locates the disease in Italy, France and Spain and adds that it has not occurred in the United States.

If pellagra is due to fermented or diseased corn, it is a matter for the health boards to correct. The article illustrates the wide scope of secular journalism. All the great dailies take one or more of the standard medical weekly journals, as medicine is one of the most progressive and most universal of interests.

PELLAGRA IN THE UNITED STATES.

"Pellagra has extended with great rapidity throughout the South during the past few years. It has been reported from North Carolina, South Carolina, Georgia, Alabama and Texas. I have been able to find reports of 200 cases. Of this number 88 are from the above-mentioned epidemic reported by Searcy in Alabama, 25 are at present under the care of J. W. Babcock at the State Hospital for the Insane in Columbia, S. C., 12 were re-

ported by McCampbell from the Western North Carolina Hospital for the Insane, and 3 from the North Carolina State Hospital for the Insane under the care of J. H. McKee. In all 65 cases have been recognized in North Carolina of these, 25 have occurred in New Hanover county, with a population of about 40,000.

The disease appears essentially in two forms. In one, the chronic, we have the typical picture described by the Italians: symmetrical erythema, especially of the exposed portions of the body, which appears usually in the spring associated with stomatitis, diarrhea, often some gastric disturbances, and followed by cord symptoms of various kinds, and finally by mental disturbances of varying degree and cachexia. As summer advances the symptoms usually disappear, only to reappear the following spring. With each recurrence the impression on the nervous system becomes more indelible, the cachexia more marked, and the skin more atrophic and discolored. The average duration of these cases in Italy is five years, though not infrequently the duration is twenty years. One of Tuczek's cases was diagnosed in 1851 and the patient died of broncho-pneumonia in 1887.

We are indebted to G. H. Searcy of Alabama for the first positive report. He recorded an epidemic of 88 cases occurring in the State Hospital for Colored Insane at Mount Vernon. Of this number 57 patients died. In 1907 J. T. Searcy reported 9 cases from the Bryce Hospital in Alabama. T. C. Merrill in 1907 reported a sporadic case from Texas. Recently, before the medical section of the American Medical Association, R. H. Bellamy reported ten cases seen by him in Wilmington. Bellamy and J. B. Wright of Lincolnton, were the first to recognize the disease in North Carolina, and did so before the appearance of Searcy's paper."

The above note of this new disease in our country is from an article by Dr. Edward Jenner Wood of Wilmington, N. C., in the July 25, *Jour. A. M. A.*

Like blastomycosis which has for long been mistaken for tuberculosis, or the hookworm disease of the South which is treated too often as malaria, pellagra may have been overlooked in the South. Dr. Wood reported his first cases as "symmetrical gangrene." The subject is one of the greatest interest in all of its aspects—notably as to its cause, its distribution and its identification.

SUPPRESSION OF OPHTHALMIA NEONATORUM.

Soon after his appointment as director of the Division of Communicable Diseases in the New York State Health Department, the late Dr. John T. Wheeler outlined a comprehensive plan for work on the part of the department in interesting physicians throughout the State in a movement looking toward the suppression of ophthalmia neonatorum. Dr. Wheeler addressed on or two large gatherings of medical men, and succeeded in obtaining from the majority of those present a written pledge to use an efficient prophylactic in every case of childbirth. The work was interrupted for a short time by the death of Dr. Wheeler, which occurred a few months since, but was resumed as soon as possible along the lines laid down by him. Printed pledge cards were sent to the secretaries of all the county medical societies, except in New York and Kings counties, for distribution, and later individually to those physicians not enrolled in county societies. The total number of cards thus sent out by the department was 5,243, and of these, 3,148 have been returned signed. Second requests for co-operation in this work will shortly be made to all thus far failing to respond, and it is hoped that in the near future the pledge of nearly every practising physician in the State will have been secured. The pledge distributed is as follows: "The undersigned, realizing the importance of the prevention of ophthalmia neonatorum, pledges himself, in the interest of humanity, personally to adopt some approved method of prophylaxis in his obstetric practice and to use his influence to secure the co-operation of his professional associates to the same end." A gratifying feature of this campaign against preventable blindness has been the receipt of a number of letters accompanying the pledge, commending the department for having taken the work in hand, and promising co-operation in every way. —*Boston Medical and Surgical Journal*.

FEEDING IN TYPHOID FEVER.

We have so frequently referred to the matter of feeding in typhoid fever that we would not consider the subject so soon again were it not that our observation leads us to believe that the

rigid milk diet, which was so popular some years ago, is still carefully adhered to by a very considerable number of practitioners who, if they make any variation whatever, add only beef juice or broths to the diet list of the typhoid fever patient. Whatever the broth may be—that is, if it be prepared from meat of any kind—it affords a most excellent culture medium, and in a large proportion of cases is productive of diarrhea and tympanites. In our opinion, animal broths are the worst possible food-stuffs for typhoid patients, not only for the reason just given, but also because they often contain a very small percentage of actual nourishment, and mislead the physician and the nurse into the belief that the patient is being well nourished, when in reality he is being half-starved.

We are glad to note that in some of the larger hospitals a much more free diet list is being dispensed than in bygone days, and we have read with interest in the *American Journal of the Medical Sciences* for May, 1909, an article by Strouse in which he reports the results which have followed more generous feeding of the Johns Hopkins Hospital and elsewhere. According to a table which he has prepared from this institution, we find that the number of hemorrhages, in those patients who received the liberal diet, were slightly less than in those who received a liquid diet. The percentage of relapses in the first class was, however, slightly more than in the second class, and the percentage of perforations was equal. Digestive disturbances were slightly less in those who had a liberal diet than in those who were limited to liquid, and tympanites was less in the first class than in the second. During convalescence a much smaller number of liberally fed patients suffered from subnormal temperature. In those who received the liberal diet tachycardia was more frequent than in those who received a liquid diet. On the other hand, it is interesting to note that while the mortality under liberal feeding was 6.1, under liquid diet it was 12.7, or more than twice as great in the latter class.

In another table it is shown there was no material difference in the duration of the fever, of the illness, or of convalescence in either class of cases. This is in direct opposition to our own observations so far as the period of convalescence is concerned, and these tables fail to estimate the general state of nutrition in the patient. One of the most noteworthy clinical experiments that can be made is to compare a series of patients which has

been kept on liquid diet with another series which has been kept upon a liberal diet at the end of the third or fourth week of the disease. In every instance those who have received a liberal diet are better nourished and have less evidence of ataxia and feebleness than those who have been made to adhere to milk alone.

We cordially agree with Strouse in his statement that details of diet cannot be prescribed by dogmatic rules. The underlying principle in feeding typhoid fever patients should be to furnish at least the same amount of food energy that is required by a healthy, resting person. In order that our readers' minds may be refreshed in regard to this important matter we append a diet originally suggested by Shattuck to give an idea of what may be advantageously administered:

Milk, hot or cold, with or without salt, with lime-water, soda-water, Apollinaris, Vichy; peptogenic or peptonized milk; cream and water; milk with white of egg and slip; buttermilk; kumiss; matzoon; whey; milk with tea, coffee, cocoa.

Soups: Beef, veal, chicken, tomato, oyster, mutton, pea, bean, squash, carefully strained and thickened with rice, arrow-root, flour milk, egg, cream, barley. (Personally we avoid the meat soups.—Ed.)

Horlick's Food, Mellin's Food, malted milk, somatose, beef juice.

Gruels: Strained corn-meal, crackers, flour, barley water, toast water, albumen water, lemon water.

Ice cream.

Eggs: Soft-boiled, raw, egg-nog.

Finely minced lean meat, scraped beef, soft part of raw oysters, soft crackers with milk or broth, soft puddings without raisins, soft toast without crust, blanc mange, wine jelly, apple sauce, macaroni.—*Therapeutic Gazette*.

QUININE AND PREGNANCY.

The question which has been debated far and wide by medical men for many years as to the possible effect of quinine upon pregnancy is brought forward once more by two communications which are to the *Indian Medical Gazette* for February, 1909, by two East Indian practitioners bearing, to us, the somewhat unpronounceable names of Bhupal Singh and Chakravarty. Both of these physicians are tenacious in their belief that in the

presence of malarial infection complicating pregnancy quinine is not a dangerous remedy so far as the fetus is concerned. Indeed, they believe that there is far more danger of abortion if the malaria is not combated by quinine than if quinine is freely used. The first of them states that under these conditions he usually combines bromide of potash with the quinine, although he is not sure that the use of the sedative is essential. He believes that quinine has a strong tonic action upon the uterus, but not sufficient to cause it to empty its contents. On the other hand, Chakravarty believes that only when the actual labor pains begin does quinine seem to exercise an influence upon the uterus, and he believes that it stimulates the contractions after labor. He thinks that during pregnancy the administration of quinine, at the time at which the menstrual period should have occurred had pregnancy not taken place, renders the uterus particularly susceptible to the drug, and therefore at such periods it should be used with considerable caution.

This matter received attention in the editorial columns of the *Gazette* a number of years ago. We believe that as a matter of fact quinine has little or no direct influence upon the uterus, and that its sole effect is to act as a support to the general nervous system in feeble patients or in those who are fatigued by prolonged labor. We are entirely in accord with both of these Indian observers in believing that in the presence of malarial infection the danger of abortion because of this infection is far greater than the danger from therapeutic doses of quinine.—*Therapeutic Gazette.*

PSYCHO-THERAPY.

This is a subject to which many physicians have been giving careful attention recent years. Every physician should understand the principles and application of psycho-therapy. The power of suggestion to cure many disorders cannot be ignored. All the success which has been attained by the various cults, such as Christian Science, is due to the power of suggestion. Many physicians have not given psychic healing the attention it demands and this has given a chance for these various healing cults to grow.

The latest movement in metaphysical healing is the Emmanuel movement which is growing rapidly and appears to have a large future before it.

This was started by the Rev. Elwood Worcester, D.D., Ph.D., Rector of Emmanuel Protestant Episcopal Church of Boston, an eminent clergyman and a student of psychology, having been at one time professor of psychology in Lehigh University. The movement has been taken up by other clergymen, the leading one in Chicago being Bishop Samuel Fallows, a highly cultured and capable man. The leaders of the Emmanuel movement treat only functional disorders and not organic diseases. They do not antagonize the medical profession, but work with the physician, requiring patients to obtain a physician's diagnosis before being treated. There is a class of patients benefited by such treatment and who seek some such healer. The Emmanuel movement is making inroads on Christian Science and will probably hinder the growth of that cult, as many who would be attracted to Christian Science will join the new movement. The literature which the high literary lights of Christian Science are sending out, denouncing the Emmanuel movement, shows that they are very much worried by the progress the movement has already made.

James M. Buckley, LL.D., Editor of *The Christian Advocate*, a life long student of psychology, believes the physician better fitted to practice psychic healing than the clergyman. In an article in the *Century Magazine* on the Emmanuel movement he says:

"For the Christian Church to found and foster hospitals is unquestionably commendable, but the diagnosis, treatment and prognosis, should be left to those who have made this their life study and profession; to them belongs psycho-therapy as well as medicine and surgery. For the church to provide chaplains for institutions and give them every facility is also rational. To attach hospitals to individual churches under rectoral and pastoral superintendence is of doubtful expediency. To provide physicians or attempt to treat patients personally would invade the sphere of an indispensable profession, and encourage an irregular movement in other departments of medicine."

When a man not in the medical profession sees as clearly as does Dr. Buckley, the possibilities the physician has in psycho-therapy, it is time medical men saw and improved the opportunity afforded them.

The power of mental healing must be recognized by the practicing physician and used where applicable in daily practice.

THORACIC SURGERY.

At the meeting of the American Surgical Association in June a number of papers were read dealing with the advances of the surgery of the thorax and its contents; the writer has felt that it might not be uninteresting to review those dealing with the procedures advanced for the relief of pleural and pulmonary lesions, notably tuberculosis. In a rather extensive article upon Empyema Thoracis, Albert Vander Veer entertainingly reviews the history of the surgery of this condition and from a large personal experience reaches the following conclusions: (1) That the hypodermic syringe, with a long needle, is of value for exploratory purposes. (2) That the repeated use of the aspirator is not to be condemned so long as the fluid remains sterile, and its use is the preferable method of treatment in malignant cases. (3) That the use of the trocar and drainage tube is advisable after it is shown that the aspirator is no longer affording benefit. (4) That resection of the ribs is absolutely necessary when no improvement takes place with the ordinary drainage tube. (5) The latter operation to be done early, in order to protect the lung from unnecessary pressure and to relieve the adhesions that, in the young, become so detrimental in causing spinal curvature. The longer the operation is deferred, the greater the difficulty in securing expansion of the lung and the greater the danger of having fistula persist in the drainage area.

In a paper upon the treatment of Fistulae and Abscesses, Following Operations for Empyema of the Thorax, Albert J. Ochsner advocates the use of bismuth pastes introduced by Emil Beek. The relative proportion of persistent fistulae and abscesses has been greatly reduced by more thorough operative technique and by the method suggested by Murphy, consisting of aspiration and the subsequent injection into the pleural cavity of 60 c. c. of a 2 per cent solution of formalin in glycerin. The solution used consists of one part of arsenic, free subnitrate of bismuth and two parts of sterile amber vaseline; this is injected every second day until suppuration has almost disappeared and then the following solution is used: 30 parts of bismuth, 60 parts of amber vaseline, and 10 parts of paraffine of sufficient hardness to give the mass a firm degree of firmness at the body temperature. He reports in detail fourteen such cases, all of which but two have been cured, and these two are still under treatment and making satisfactory progress. Charles A. Powers, in a paper

upon the "Surgical Procedures Designed for the Relief of Pulmonary Tuberculosis," reports two cases of pneumotomy with drainage of a tuberculous cavity; in one instance the patient succumbed in a few months to tuberculosis; in the other, the patient was much improved at the end of one year, had gained in flesh, expectoration was practically *nil*, but a discharging sinus persisted. His review of the literature shows pneumotomy with drainage of tuberculous cavities to have been discouraging. Pneumectomy has been resorted to but few times and has resulted in failure. Artificial pneumothorax by the insufflation of nitrogen, is but rarely employed in this country, although Brauen and other foreign observers use it constantly and report encouraging results.

Mobilization of the upper thoracic wall by chondrotomy of the first rib or first two ribs, with or without resection of the costal segment was advised and practiced by Freund on the grounds that the upper apical portions of the lung are insufficiently aerated. The three cases in which this procedure was carried out were all reported improved.

Leonard Freeman, in a paper upon "Resection of Ribs, Combined with External Pressure, in the Treatment of Tuberculosis of the Apex of the Lung," reports two cases treated in this manner, basing his treatment upon the ground that one of the most potent factors in the cure of pulmonary tuberculosis, with or without the presence of cavities, is the gradual formation and contraction of fibrous tissue, which seems to be promoted by collapse of the lung and freedom from motion. The author states that the procedure should not be applied indiscriminately, but should be reserved for refractory cases with marked and limited apical lesions, especially when the tendency to the formation of cavities exists. In this operation two or three inches are removed from the second, third, and possibly the fourth ribs, the cartilage of the first rib being divided if desirable, the resection being subperiosteal, and occupying a position below the clavicle. As soon as the sensitiveness of the scar will permit, a bunch of gauze is placed over the part and an ordinary spring truss is adjusted so as to make considerable pressure, the pad of the truss resting in front of the spring passing over the shoulder to the back where it obtains its counter pressure. The chest wall is thus caved in and the thorax partially immobilized, assisting in the formation of fibrous tissue. The author reports two cases treated in this

manner, both showing marked improvement with disappearance of cavities, and no recurrence of cavities, in seven and eight years respectively, although both still present evidences of moderate pulmonary tuberculosis. The author closes his paper with the conclusion that the healing of stubborn tuberculosis pulmonary lesions is favored by collapse of the lung, and this may be obtained by artificial pneumothorax; extensive extrapleural resection of all the ribs, with removal of their periosteum; and local resections of the ribs especially at their apex. The guest of the Association, Professor P. L. Friedrich, of Marburg, Germany, presented a paper on "The Operative Treatment of Tuberculosis of the Lungs with Total Thoraco-Plastic Pleuropneumolysis." In experimenting upon animals, he found that they tolerated the ablation of an entire lung, not only immediately after the interference, but at the end of one to one and a half years they were found to be in good condition and upon being killed, the cavity from which the lung was removed was found to have been compensated, the heart taking the place of the removed lung; also the remaining lung had expanded and assisted in filling the defect; the diaphragm had risen higher up and the bony chest wall had become flattened and shrunken, all together completely compensating the defect. Following this, he was enabled to observe a remarkable improvement in a patient suffering from pulmonary and rib tuberculosis, in whom he did a deossification of the chest wall, removing the tuberculosis ribs. The improvement was such that he thereafter regularly did this operation upon the patients referred to him by his colleagues, i. e., ablation of the rib from the second to the tenth, from the spinal column to the costal cartilage, the lung thus being made to collapse toward the hilus. Such intervention leads to (1) collapse of cavernous lung tissue; (2) extensive exudation of the lung on the operated side from the respiratory function; (3) retardation of the pulmonary circulation in this lung, an essential diminution of the lymphatic circulation and absorption. The opposite lung is greatly taxed and promptly develops a compensatory volume. An unconditional requirement for admission to the operation is to select only such cases of unilateral phthisis in which the other side is not simultaneously affected with active, progressive foci, passive processes alone being present. In his more recent cases he has been making a more extensive apical detachment. He rather discourages circumscribed costal ablations and thinks it will al-

ways prove advisable to extend the scope of the operation considerably beyond what seems to be required by the extent of the lesion. He insists upon the selection of cases as outlined above and that they be free from evidences of tuberculosis in other organs. The direct mechanical effects of the operation are a dislocation of the heart, a slight scoliosis and a temporary interference with the functions of the arm. The results in the course of the disease are usually impressive; defervescence follows rapidly as a rule in patients with a high fever; this is most probably due to the changed conditions of absorption.

In every case the amount of the sputum is reduced enormously in some days, at most weeks, and the irritative cough diminishes. His experience shows that not only the cavernous tissue is favorably influenced by putting it at rest, but also is the as yet non-disintegrated portions. This is rendered intelligible in view of the encapsulation and cure of tuberculous foci, frequently observed elsewhere after fixation of organs affected with tuberculosis. In all his cases, an increase in the body weight and improved subjective conditions are noted in the further course. Concerning the extent of the affection on the diseased side he has had no restrictions to offer at present as his cases, without exception, concerned very far advanced consumptives.

CONGENITAL STENOSIS OF THE PYLORUS IN THE ADULT.

In the year 1879, Heinrich Landerer (Inaugural Dissertation, Freiburg), reported a series of nine cases in adults, varying in age between 43 and 63, in which at autopsy he could demonstrate a narrowing of the pylorus, which he believed to be of congenital origin. In 1885, Maier (*Virchow's Archiv*, CII, 1885) reported thirty-one cases of a similar lesion, some of which were accompanied by muscular thickening of the pylorus; the latter he termed the "combined" form. Little clinical attention was paid to this entity until Maylard (*Transactions of the Clinical Society of London*, 1904) reported seven cases operated upon for intractable gastric symptoms, in which a narrowing of the pylorus was easily demonstrable, and for the relief of which he performed gastro-enterostomy. It may be said in passing, that the arguments set forth by Maylard and others as to the congenital origin of the stenosis, leave little room for doubt that this is the correct interpretation of the lesion.

In a recent number of the *British Medical Journal* (July 14, 1908), Maylard reported twelve additional cases, while Russel, whose paper deals with the subject *in extenso*, reports three more. The symptoms of this disease are not especially characteristic. There is usually a history of gastric dyspepsia of long duration, sometimes even dating to childhood, of intermittent character, occasionally of the so-called "bilious" variety. According to Maylard, the periods between the attacks gradually lessen as age advances. The history, as a rule, also reveals the fact that the patient has learned to be very careful of the quality and quantity of the food to be taken, any deviation from which is apt to induce an attack of dyspepsia. In not a few of the patients, it was thought that the gastric condition was due to active ulceration, or to its subsequent effects. Sooner or later, however, the symptoms of pyloric stenosis became manifest. There may be dilatation, and in two out of three cases, Russel could induce gastric peristalsis. In the combined forms of congenital stenosis, a pyloric thickening, first noted by Kussmaul, may be palpable through the abdominal wall. Russel believes that a diagnosis is possible by paying attention to the above data, and by exclusion of the well recognized causes of pyloric stenosis. Maylard, while not quite as optimistic in regard to the possibility of diagnosis, believes that at all events the intractability of the malady to ordinary remedial measures, the lessening periods between the attacks, and the evidences of pyloric stenosis, are sufficiently clear indications for exploratory section.

It would appear upon first thought, that the operation for gastro-enterostomy would be almost an ideal procedure for the cure of this lesion. Indeed, this is the operation that has been carried out upon all the cases thus far reported. In his present communication, however, Maylard reports that in his hands the operation has not been followed by the success expected. When the subsequent histories of these patients were traced, he found that in only a minority were the symptoms permanently relieved; some were practical failures, while the majority showed more or less improvement. Maylard accounts for the inadequacy of the operation in two ways: First, that the long duration of the disease has induced a chronic gastritis which persists despite the drainage; second, that the gastro-enteric opening has a tendency to close because the pylorus is not sufficiently narrowed to counteract the normal *vis a tergo* of the gastric contents, which still

prefer the natural outlet. For these reasons, Maylard believes that some form of pyloroplasty is preferable.

There is little doubt that the above reports throw considerable light on a group of cases that have hitherto puzzled surgeons in the course of exploratory operations for obscure diseases of the stomach. The recognition of this new clinical entity is particularly interesting in the light of our knowledge of a similar lesion in infants, whose clinical manifestations have long been familiar. We may look upon the above reports, therefore, as important contributions to our knowledge of gastric diseases.—*American Journal of Surgery.*

A NEW RECTAL SPECULUM.

G. A. HUMPHREYS, M.D.,

NEW YORK.

In rectal work I have found that the Sims vaginal speculum is the most useful of all specula—though not originally intended for the rectum. There are objectionable features to the use of such a speculum in the rectum. Some of the objectionable features have been the difficulty in getting blades of right dimensions, of finding blades with free edge sufficiently blunt to prevent injury to the mucous membrane, particularly over the prostate, and also the difficulty of inserting such an instrument with the convex surface of the blade anteriorly without occasionally denuding mucous membrane over the prostate gland and occasioning pain—this because of the presence of the other blade coming in contact with the body, and thus not allowing the inserted blade to dip backward sufficiently.

To meet these objectionable features, I have designed the instrument shown in the illustration. To overcome the sharp edge, I have added a collar that projects inward only, as shown. To overcome the interference of the blade not in use, I have rotated it so as to make it point in an opposite direction and have increased the distance between the blades to eight inches.

The length, depth and width of blades are those that we find the most generally used at St. Bartholomew's Clinic and the N. Y. Polyclinic in the rectal department, and such sizes are the ones that Dr. James P. Tuttle uses much more than all others.

Dimensions:

Length of blades, $3\frac{1}{4}$ inches.

Distance between blades, 8 inches.

Larger blades, 1 1-16 inches wide, $\frac{1}{2}$ inch deep.

Smaller blade, 15-16 inch wide, $\frac{1}{2}$ inch deep.

The above instrument is just as good for vaginal work as a Sims speculum, carrying the same sized blade. It is a safe and very useful instrument in rectal work, with a wider range of usefulness than any Sims' speculum. It can also be used as a retractor in abdominal work.

THORACOTOMY FOR EMPYEMA.

Simple incision lacks the fundamental principles of surgery, and most advanced modern surgeons do not consider it a recognized method of procedure for the surgical treatment of empyema. The established plan of procedure, which has withstood the test of time, is that laid down by Hippocrates, with one exception. Hippocrates trephined the rib to avoid injury of the intercostal vessels and nerves, while we, with a more perfect knowledge of anatomy, prefer to resect a portion of one or more ribs, thus enabling the surgeon to introduce one or more fingers, or the whole hand, into the pleural cavity, and by intrapleural manipulation break up all adhesions, remove the large masses of coagulated lymph, and thereby accomplish a more thorough surgical operation.—*P. T. O'Connor, in Medical Record.*

Surgical Suggestions.

When a patient with inflamed varicose veins develops suddenly dyspnea and cyanosis, don't sit her up to examine her—the probability of pulmonary embolism is too great.—*H. N., American Journal of Surgery.*

Operation for cancer of the stomach after the diagnosis has been made by the presence of a palpable tumor can not be hoped to be curative. The hopeful cases are those in which diagnosis is made through an exploratory opening which may be made under cocaine and only large enough to admit the finger.—*W., American Journal of Surgery.*

DIAGNOSIS OF STONE.

It is not an uncommon occurrence for a vesical calculus to lurk in a recess of the bladder immediately behind the prostate, and thus evade the sound, when search is being made. To avoid its being missed in this way, it is wise to tilt the hips well above the level of the shoulders, when the stone may become dislodged, roll down to the base of the bladder, and become easy of detection by the instrument.—*Ex.*

In snake bite, the first thought should be the application of a ligature proximal to the wound to prevent absorption of the poisons. Next enlarge the wound and curette to favor free bleeding, and it is well at this time, if convenient, to apply a dry cup or other form of suction to further favor bleeding. The old idea of sucking the wound is not altogether a bad one, for experiments have shown that the venom, when swallowed, is not very poisonous. Now fill the wound with potassium permanganate and treat empiracally.—*The Old Dominion Journal of Medicine and Surgery.*

In immobilizing the knee-joint the patient is more comfortable and better relaxation is secured if a very slight degree of flexion is maintained.—*American Journal of Surgery.*

Not only in the abdomen but everywhere else in the body—with the sole exception of the brain—when in doubt, drain!—*H. N., American Journal of Surgery.*

Bed sores are more easily prevented than cured. It is important, therefore, that in every case of severe or prolonged illness it should form part of the routine instructions to have the patient turned every few hours on the side and the parts most pressed upon rubbed thoroughly with a dry towel. This causes a healthy transudation and absorption of the nutritive juices. Salt, draems two, to a pint of whisky, makes a good home application that hardens the tissues. Where the skin is red and angry-looking, a solution of nitrate of silver, 20 grains to the ounce, painted over the surface is of great service.—*The Old Dominion Journal of Medicine and Surgery.*

Therapeutic Suggestions.

PURGATIVE FOR CHILDREN.—Every physician has felt the want of a pleasant purgative for children. The following formula has been used for years:

Glycerini 1 ounce.

Ol. cinnamon 6 drops.

Ol. ricini 1 ounce.

M. Sig.—One grain at adose p. r. n.—*Smith, Columbus Med. Jour.*

DIARRHOEA WITH CRAMPS.—

Tinet. opii. camph.

Tinet. lavendulae comp

Tinet. cardomomi comp. aa 1 ounce.

Aqua menth. pip 3 ounces.

Sig.:—Tablespoonful every two or three hours.—*Er.*

RHEUMATIC PAINS AND SWELLINGS IN CHILDREN TREATED BY APPLICATIONS OF ICHTHYOL:—

Ichthyol dr. ii

Vaselini oz. ii

M. et Sig: First wash the skin over the affected joint well, with very hot water. Wipe dry and rub well for five or ten minutes with the ointment. The swelling and pain invariably yields and in a couple of days all abnormal symptoms are gone.

FOR PRURITUS (ANDERSON'S POWDER):—

Pulv. amyli oz. j

Pulv. camphoræ dr. iss

Zinci oxidi oz. ss

Reduce the camphor to an impalpable powder; then thoroughly incorporate with the other ingredients. Dust on the affected parts.—*Palmer's Favorite Prescriptions.*

An excellent local application for the temporary relief of neuralgia and gout is prepared by rubbing together equal parts of thymol, menthol, camphor, and chloral.

SPRAY FOR PHARYNGITIS SICCA:—

Acidi carbolici	gr. x
Tinct. iodi	
Tinct. aloes	
Tinct. opii	aa gtt. x
Glycerini, p. s.	ad oz. j

M. sig. To be used as a spray several times daily.—*Ex.*

PRURITIS VULVAE:—

Acidi carbolici	gr. x
Morphine hydrocyanici diluti	dr. ij
Glycerini	dr. iv
Aq., q. s.	ad oz. iv

Ft. lotio. Sig. Apply twice daily.—*Atthill, Jour. Amer. Med. Asso.*

CATARRHIAL AFFECTIONS.—It is said that an excellent cleansing and disinfecting solution for free use in the nasal cavities, by means of the douche or spray, may be prepared by mixing:—

Boric acid	
Sodium borate	aa parts ij
Sodium chloride	parts j
Thymol	parts xxxij
Aq. camphor	parts 96

Ex.

ENDOMETRITIS:—

Ichthyl	dr. ij
Bals. Peru	dr. j
Acid. boracic	dr. ss
Glycerin	dr. x

M. Sig.—Apply on conic antiseptic cotton tampon, per speculum, leaving in situ over night, three or four times a week.

This prescription is also useful in ulcerations of the os.

CONVULSIONS IN CHILDREN:—Hot or tepid bath or mustard bath if the child seems to have been chilled. To prevent recurrence give:—

Potass. bromid.	
Sod. bromid.	
Ammon. bromid.	aa gr. iiij
Syr. codein.	oz. j
Syr. auranti flor.	oz. j
Aqua.	oz. iiij

If the child cannot swallow, give a rectal injection with—

Musk.	gr. ij
Chloral hydrate.	gr. ixss
Camphor.	gr. xv
Yellow of egg.	dr. iiss
Aqua.	oz. iiij

—*Med. Rec.*

PERSONAL MENTION.

Dr. T. P. Hale has returned from Atlantic City.

* * * *

Dr. and Mrs. Joseph M. Mathews have returned home after a pleasant trip abroad.

* * * *

Dr. J. Garland Sherrill has returned from his vacation at Charlevoix, Mich.

* * * *

Dr. and Mrs. Jno. G. Cecil, Miss Martha Cecil and Mrs. Russell Cecil have returned from a month's stay at Wianna, Cape Cod, Mass.

* * * *

The wedding of Miss Julia Morsel Mengel and Dr. Cuthbert Thompson will be solemnized at noon Tuesday, October 12, at St. Andrew's Episcopal church.

* * * *

Dr. J. B. Marvin and Mrs. Marvin and daughters, Misses Minnie and Martha Marvin, have returned after spending some time at Tabitha Inn, at Fairhaven, Mass.

Dr. T. P. Satterwhite and daughter, Miss Sunie Satterwhite, have gone to New York, where they will be the guests of Dr. and Mrs. Preston Satterwhite at their summer home at Great Neck, Long Island.

* * * *

Dr. Frank C. Wilson and Mrs. Wilson have announced the engagement of their daughter, Miss Laura Lyle Wilson, to Mr. John C. Wickliffe, the wedding to be quietly solemnized this fall at the home of the bride's parents.

* * * *

Mr. and Mrs. Ap Morgan Vance have issued invitations to the marriage of their daughter, Miss Mary Huntoon Vance, to Mr. Jacob Browne Lewman on Wednesday, September 29, at 5 o'clock, at their home, 835 South Fourth avenue.

ACKNOWLEDGEMENTS.

- "American Practice of Surgery," Vol. 6; complete in 8 Vols. Jos. E. Bryant, M.D., LL.D., Albert H. Buck, M.D. Wm. Wood & Co., New York.
- "Minor Surgery and Bandaging," 7th Edition. H. R. Wharton, M.D. Lea & Febriger, Philadelphia, Pa.
- "Human Physiology," New World Series. J. W. Richie. World Book Co., Yonkers-on-the-Hudson, N. Y.
- "International Clinics," Vols. 2 and 3. Nineteenth Series. W. T. Longscope, Editor. J. B. Lippincott & Co., Philadelphia, Pa.
- "Magnesium Infiltration." Jno. Aulde, M.D. Reprinted with additions from the Wisconsin Med. Recorder. 1909. Price, 25 cents.
- "Dementia Amentia Destruementia" (or Destruomentia). By C. H. Hughes, M.D., St. Louis, Mo.
- "The Neuraxis and Pelvic Strain of Present-day Transportation Methods. C. H. Hughes, M.D.
- "The Treatment of Hookworm Disease." By C. H. Wardell Stiles, Ph.D. Gov. Print. Office, Washington, D. C. 1909.
- "Hookworm Disease in Its Relation to the Negro." By C. H. Wardell Stiles, Ph.D. Gov. Print. Office, Washington, D. C. 1909.

"Philadelphia General Hospital Reports." Vol. VII. 1908.
Edited by Herman B. Allyn, M.D. Dunlap Printing Co.,
Philadelphia. 1909.

"Report of a Case of Urethral Transplantation." By J. D. S.
Davis, Birmingham, Ala.

"Blood Transfusion." By J. D. S. Davis, M.D., LL.D., Birm-
ingham, Ala.

Correspondence.

OPEN LETTER.

DEAR DOCTOR:—

A meeting of physicians and surgeons interested in Scientific Clinical Research is called for Wednesday, October 27, 1909, at John Ware Hall, Boston Medical Library, No. 8 Fenway, Boston, Massachusetts. The meeting will come to order at 10 A. M., and carry its sessions through Wednesday, and, if necessary, through Thursday and Friday.

The object of the meeting is: First, to establish an American Association of Clinical Research.

Secondly, to establish clinical research on an incontrovertible scientific basis in hospitals; and

Thirdly, to institute an American Journal of Clinical Research, in which the work of members of the American Association and of others doing clinical research work in a scientific manner shall be published.

You and your friends are herewith cordially invited to participate in this meeting and in the proposed movement of scientific clinical research.

This invitation is extended to all physicians and surgeons whose interest goes beyond the immediate ease work of ordinary clinical societies; and it is hoped that the invitation will be accepted by all medical practitioners, irrespective of their present medical affiliations, who can appreciate the necessity for establishing on an incontrovertible scientific basis the certainties and limitations of the present practice of medicine and surgery before attempting to add to the already large and cumbersome field of medicine.

The American Association of Clinical Research is not intended to disturb the present medical affiliations of its mem-

bers nor to interfere in the very least with the duties they owe and the privileges they enjoy by virtue of their affiliation with any existing national medical body.

The American Association of Clinical Research is to take cognizance of the fact that the clinic requires cold facts and conclusive methods, and upon these fundamental requirements, the structure and work of the American Association of Clinical Research are to be built.

It is of the utmost scientific importance to establish conclusively all that is at present true in medicine and surgery, and only upon such proved knowledge, to base any further advancement. The clinic deals with clinical entities and not, like the laboratories, with parts as entities. Therefore, clinical research differs, and must differ, from experimental laboratory researches. Clinical research must consider clinical entities, and when considering parts, it must consider them only as parts and not as wholes. All that subserves the object of obtaining and investigating clinical facts and principles belongs to clinical research and the laboratory is a part of the means of clinical research, but only a part.

The crux of the matter appears to be that experimental laboratory proof is not sufficient clinical proof. In order to advance in an irresistible line, clinical research must be based on a conclusive form or method of clinical proof. In experimental proof, we dislocate a part from a whole and attempt to prove the whole from the part, as though a dislocated part could always prove the whole. Or, we attempt to prove facts in one species by facts in another species, as though the two species were identical. For instance, the experiments made on animals to elucidate certain elements of fever bring out a fact of almost insurmountable difference between man and the lower animals, the fact that man has associated with the nakedness of his body a highly perfected power for regulating his temperature, a highly developed vasomotor system and a vast array of sweat glands, a characteristic complex of things which apparently no other species of animal life presents. Experiments made on animals to prove febrile or other clinical phenomena in man, may be suggestive, but for obvious reasons cannot be conclusive. To prove observations in man, the observations must be made on man and not on animals. But observations on man even are not necessarily conclusive. Individual observations on man cannot be conclu-

sive, because the same experience cannot be repeated, and when we prove by numbers, we compare similar but not identical experiences. Analogy is not conclusive proof. Identity alone is conclusive proof; but since, in medicine, identical experiences cannot be repeated, we must provide simultaneous identical experiences in order to have proof by identity. Clinical proof is conclusively established when all observations and experiments are made conjointly by at least two competent men, preferably of opposite ideas, at the same time. Conjoined critical observation and experiment, at the bedside and in the laboratory, as may be required, furnish simultaneous identical experiences, the proof proceeding on the principle that a whole can be proved only by the whole and not by dislocated parts.

These and other weighty questions await your assistance for a necessary solution. The benefit that will accrue, both to medicine in particular and to the medical profession and humanity at large in general, from a satisfactory establishment of scientific clinical research, can be easily surmised. Come prepared, yourself and your friends, to give to this matter your mature convictions and your personal assistance. Only from a critical interchange of critically acquired opinions, can we hope for clearness and for the clarification of the medical atmosphere now charged with confusion and indifference.

Your communication, indicating your interest and your expectation of being present at the meeting in Boston on October 27, next, is eagerly awaited, and on receipt of the expression of your interest, further developments will be communicated to you personally in due time.

Please address your communications at the earliest possible date directly to JAMES KRAUSS, M.D., 419 Boylston Street, Boston, Massachusetts.

Yours fraternally,

Signed: JAMES KRAUSS, M.D.,

Chairman Committee

American Association Clinical Research.

419 Boylston Street, Boston.

August 18, 1909.

APPEAL TO THE MEDICAL PROFESSION OF THE WEST AND SOUTH.

Up to the present time there has not been a concerted effort made to collect and preserve historical data in regard to the

origin, evolution and personnel of our profession in this part of our country. The result of this delinquency has been the total loss of much material that should have been preserved, especially pertaining to medical schools and societies, and biographical matters in connection with the practitioners and teachers of medicine of by-gone days. A good deal of material of this character is still obtainable if a systematic effort is made to locate and preserve it. It is in the possession of individuals, families and private libraries and will eventually be lost. *The Western Association for the Preservation of Medical Records* was organized in May, 1909, for the purpose of collecting the historical and biographical records of the profession of the West and South. We wish to preserve anything and everything pertaining to Western medicine and medical men and are anxious to enlist the active help and support of every member of the profession who is in sympathy with our aims. We want every one to become associated and identified with the work of our Association. There are no fees or obligations of any kind. We have made arrangements with the Lloyd Library, Cincinnati, O., for the proper housing of the material collected. The latter will be systematically arranged, catalogued and properly preserved so that it can be made available for research-work. We are particularly anxious to obtain:

1. Medical Journals published in the West and South prior to 1880.
2. Medical books and pamphlets written or published in the West.
3. Manuscripts and autographs of early Western physicians.
4. Old diplomas and other documents of a medical character.
5. Proceedings of medical societies.
6. Reports of hospitals and other medical institutions.
7. Catalogues and Announcements of Western medical colleges of all "schools."
8. Biographies and portraits of Western physicians.
9. Information and material of any kind pertaining to medicine and medical men and affairs in the West.
10. Curios of a medico-historical character.

All contributions should be sent in care of the Librarian. In view of the fact that we are performing a labor of love, and have no funds, our friends and associates will readily understand why all contributions sent by express or freight should be prepaid so

that no expense may accrue to the Association. The necessary expenses of the Association are at present being met by voluntary contributions of its organizers.

May we not count upon *your* active help and support? We would like to hear from every member of the profession who is interested in the proposed work.

C. A. L. REED, M.D., *Chairman.*

OTTO JUETTNER, M.D., *Secretary.*

A. G. DRURY, M.D., *Librarian,*

710 W. Eighth Street, Cincinnati, O.

BOOK REVIEWS.

THE PRINCIPLES OF BACTERIOLOGY. A Practical Manual for Students and Physicians. By A. C. Abbott, M.D., Professor of Hygiene, University of Pennsylvania. New (8th) edition, thoroughly revised. 12mo, 631 pages, with 100 illustrations, 26 in colors. Cloth, \$2.75, net. Lea & Febiger, Philadelphia and New York, 1909.

The new eighth edition of Abbott's Bacteriology is an able and skillful presentation of this subject as a text-book and laboratory guide. The essentials are fully discussed, which makes the work the more valuable both for students and practitioners. The technique of bacteriological methods is simply told, avoiding all superfluity. In revising the work the author has brought it up to date, embracing the very latest ideas and thoughts. The pages devoted to the morphological description of the various bacteria are particularly interesting and instructive as like-wise the chapter on Infection and Immunity. W. G. B.

SEVEN HUNDRED SURGICAL SUGGESTIONS. Practical Brevities in Surgical Diagnosis and Treatment. By Walter M. Brickner, B.S., M.D., Assistant Adjunct Surgeon, Mt. Sinai Hospital, New York; Editor-in-Chief, American Journal of Surgery; Eli Moschcowitz, A.B., M.D., Assistant Physician, Mt. Sinai Hospital Dispensary, New York; and Harold M. Hayes, M.A., M.D. Third Series. Duodecimo; 153 pages. New York: Surgery Publishing Co., No. 92 Williams Street. Price, semi-de-lux, \$1.00; full library de lux, ooze leather, gold edges, \$2.25.

This little book of 150 pages is replete with many valuable suggestion. The various suggestions are classified according to the partienlar regions of the body under discussion. Many of them are important in the making of proper diagnosis of surgical conditions, which at times are overlooked or have been forgotten. While the book is not a voluminous one, it is valuable because it is brief and to the point in its declarations.

Valuable not only as a reference book, but as an instructive and readable one.

W. G. B.

DISEASES OF THE GENITO-URINARY ORGANS AND THE KIDNEYS. By Robert H. Greene, M.D., New York, and Harlow Brooks, M.D. New York, W. B. Saunders Co., Philadelphia and London.

This is an admirable book for the general practitioner. The manner in which the various topics are disussed makes the work a very practical one. The subjects under consideration are treated of more thoroughly from a medical view point than from a surgical one. However surgical procedures are briefly outlined. Diseases of the kidney are given particular attention and the subjects of uremia, the blood poisons in renal disease, the office treatment of gonorrhea are very elaborately described and satisfactorily treated of.

W. G. B.

HUMAN PHYSIOLOGY. An Elementary Text-book of Anatomy, Physiology and Hygiene. By Jno. W. Ritchie, Professor of Biology, College of William and Mary, Virginia. Illustrated by Mary H. Wellman. New-World Science Series. World Book Company, Yonkers-on-Hudson, New York. 1909.

Such a book as this is of inestimable value in that it places a purely anatomical and physiological idea to a school-child, to whom it is especially written. Children should be taught the structure of their bodies, and the working thereof as well as the care of same in health, and what to do to prevent disease and disorder. Indeed, the work makes excellent light reading for a doctor, being facts tersely put. The illustrations are profuse; type, binding and paper excellent examples of the book-makers' art.

S. B. H.

MANUAL OF THE DISEASES OF THE EYE. For Students and General Practitioners. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Dept., Columbia University, New York. 1890-1903. Attending Ophthalmic Surgeon to the Mt. Sinai Hospital, New York; Consulting Ophthalmologist to the French Hospital, to the Gouverneur Hospital, to the Red Cross Hospital and to the Italian Hospital, New York. Sixth Revised Edition, with 362 Original Illustrations, including 22 plates, with 62 colored figures. Price, \$2.00, net. Wm. Wood & Co., New York.

Medical colleges are soon to open and such books as May's Ophthalmology will be in demand. We are sorry the other fields of medicine are not covered as thoroughly and concisely as Dr. May covers the eye in this medium-priced volume. This Manual reminds the reviewer of a well-conducted department in a large business house. The department is thoroughly taken care of on a small outlay of expense account. As to the book's inherent features, type is good, as well as paper and binding. The text is gospel for students and practitioners. S. B. H.

COSMETIC SURGERY. By Charles C. Miller, 70 State St., Chicago, Ill. Published by the Author.

Cosmetic Surgery is a small volume of the average compend size, detailing all sorts of operations, mainly skin plastics for the improvement of the appearance of the human face and head. We can say the book is worth the buying in that most of the proceedings are possible to the average surgeon, and interesting to those who wish to know the possibilities in the correction of certain malformations or deformities in this region. S. B. H.

AN IMPORTANT LITTLE WORK ON BIOLOGICAL THERAPEUTICS.

In view of the near approach of the season when biological therapeutics will claim a considerable share of the attention of practitioners, reference may pertinently be made at this time to a unique and valuable contribution to the subject which has recently issued from the press of Messrs. Parke, Davis & Co. The publication consists of 52 pages, exclusive of the cover, and appears in brochure form. It is handsomely printed on white enamel paper of first quality and bears in colors a profusion of

half-tone illustrations. The title is "Serums and Vaccines." A brief chapter on the origin and development of biological therapeutics, with an interjected hint as to what the opsonins may have in store for us, constitutes the introduction. Then follow chapters on serums—antidiphtheric, antitetanic, antistreptococcic, antigonococcic, antienterococcal and antivenomous; on tuberculin; on vaccines, including the new bacterial vaccines which are exciting so much attention from the medical world; on organotherapy, its development, and some of the important products that are associated with it—"a tabulation," in the language of the brochure itself, "of such creatures of biologic pharmacy as are really utilized in medicine." There are striking pictures of the Company's home laboratories at Detroit, with numerous interior views; the research laboratory; the operating house and biological stables at Parkedale Farm (where the animals are cared for), with accompanying landscapes in nature's colors.

This little book, "Serums and Vaccines," is distinctly "worth while." If you haven't seen a copy, drop Parke, Davis & Co. a postal card at their home offices in Detroit, mentioning this journal, and get one. It is a safe guess that any physician who receives the brochure will read it admiringly and with interest, filing it away thereafter for future reference.

GLYCO-THYMOLINE IN GYNECOLOGICAL CONDITIONS WITH PARTICULAR REFERENCE TO UTERO- VAGINAL CATARRH.

By F. L. NEWTON, M.D., BOSTON, MASS.

A novel way of using Glyco-Thymoline for vaginal leucorrhea will be of interest. Obtain a few sea sponges of fine, soft quality. Cleanse and boil. Draw a thread or cord through one end of same, saturate it with Glyco-Thymoline (full strength) placed in a small dish or cup, say half ounce. The application of the tampon is best made by use of a Ferguson's speculum so placed as to expose or encircle the cervix uteri. With sponge filled with Glyco-Thymoline gently press through the speculum, patient being in lithotomy position, with hips raised. If you wish, instruct the patient as to the method. Have her procure the sponges, also a glass piston-formed vaginal syringe, half ounce or ounce capacity. Fill the syringe with the Glyco-Thymoline solution, insert into vagina, slowly pressing piston until the syringe is emptied. Then insert a sponge tampon, prev-

iously saturated with Glyco-Thymoline (excess solution squeezed out). This is far superior to the cotton or wool tampon and can be outdrawn after twenty-four hours, washed and boiled and used again if desired.

The treatment of mucous surfaces is interesting because effectual. Intra-uterine treatment, however, is a very delicate piece of work and should never be undertaken except by an experienced physician and under favorable conditions. A few of these conditions must be induced by the operator.

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Second.—Perfect asepsis—instruments sterilized and parts cleansed.

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There exist a number of cutaneous disorders which, in the main, are due to a general bad state of the tissues. It is in these that a general up-building process must be inaugurated in order to heal and improve the local cutaneous disturbance. It was formerly the custom to order cod liver oil, with good results. To-day, it is equally advantageous to give the cod. ext. ol. morrhuae comp. (Hagee), which acts not only as well, but better, and is devoid of grease.—*Am. Jour. Dermatology.*

PRECAUTIONARY MEASURES.

As every physician has constantly under his care cases of either typhoid, malarial or bilious fever, it is well to remember that precautionary measures are possible, and if taken in time, much of the trouble with these cases is avoided. If it be true that the materies morbi of these diseases belong to the bacillus group, the remedies manifestly are an antiseptic and an antipyretic. As an intestinal antiseptic we have nothing better than salol. The consensus of opinion is in this direction. When we add the antipyretic and anodyne effect of antikamnia, we have a happy blending of two valuable remedies, and these cannot be given in a better or more convenient form than is offered in Antikamnia and Salol Tablets; each tablet containing $2\frac{1}{2}$ grains salol. The average adult dose is two tablets. Always crush tablets before administering, as it assures more rapid assimilation. As the necessity of intestinal antiseptics in the treatment of this class of diseases is fully recognized, would not the scientific treatment of the conditions preceding them be the administration of the same remedies? Fortifying the system against attacks is the best preventive of them.



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FRACTURES OF THE PATELLA AND THEIR MODERN OPERATIVE TREATMENT.

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The patella is the largest sesamoid bone in the body. It is developed and imbedded in the substance of the largest and most powerful muscle groups in the body, the quadriceps extensor femoris muscle, and forms a part of quadriceps extensor femoris muscle, and forms a part of portant factor in the distribution over a considerable area of any force applied to the front of the knee. It provides considerable leverage for the quadriceps muscle and its removal is followed by a weakening and an impairment of the action of the quadriceps extensor tendon upon the leg. By this sesamoid bone the tendon of the quadriceps is kept spread out and prevented from being gathered up in a round cord. Any portion of the patella, base, body, apex, and borders may be the seat of fracture. Fractures of this bone are almost invariably intra-articular, that is,

the line of fracture almost always extends into the knee-joint, thereby involving the largest and most complex synovial cavity of the body. This fact is important from the symptomatic, therapeutic, and prognostic standpoints.

Fractures of the patella possess the characteristics common to all fractures. They may be subcutaneous; they may be open; may be complete or incomplete; may be unilateral or bilateral. The right and left patella seem to be each involved with about equal frequency. If the fracture be bilateral both bones may be fractured simultaneously, or in succession, that is, an interval of time of greater or less duration intervening between the two distinct fractures.

Fractures of the patella may be simple, may be complicated by significant injuries of the neighboring structures or tissues. In 43 out of 55 cases reported by Boeckenhimer, an injury of the accessory patellar ligaments, or reserve extensor apparatus, was present. These fractures may be recent, may be old. We will consider, somewhat arbitrarily, we acknowledge, as old fractures, all these that are of more than two months standing.

From the operative and from the prognostic standpoints, the determination of these different types of fractures is of great importance. For instance, in old fractures, the fractured surfaces must be freshened and the interfragmentary fibrous band resected. Compound fractures call for immediate operation. Comminuted fractures may call for removal from the articular cavity of detached bony fragments.

Fractures of the knee-cap may be due to violence, direct or indirect, or to muscular action. It is not uncommon for two or all of these factors to be associated in the production of the injury. All the compound fractures that have come under our observation or that we have found reported in the literature, were due to direct violence; a blow, a fall, a kick, etc., upon the knee-cap. If direct violence be the causative factor, the greater the violence the greater the likelihood of stellation, of comminution of the bone.

Some clinicians classify fractures of this bone into (a) blow fractures, (b) tear fractures, and (c) such as are due to a combination of both factors, impact or traction. From an etiological standpoint, this classification is of value,

but it cannot be utilized as a constant guide to determine whether operative or non-operative treatment is indicated. In the tear fractures, the lateral expansions of the quadriceps extensor muscle on either side of the patella are torn, and, almost always, there is considerable separation of the fragments of the fractured bone. Tear fractures have been reported in which separation (detectable by inspection and palpation) of the fragments was not present (2). Such cases are of very exceptional occurrence. Blow fractures have been reported in which marked separation of the fragments was found to be present.

We find reported such statements of the circumstances surrounding the accident as the following: While making an effort to regain his balance, to restrain himself from falling, the patient fractured his patella. In a case reported by Hamilton (3), it is stated that the patient slipped in a room, then fell in a sitting position, a fracture resulted; Mayer's (4) patient in falling upon her back, heard a cracking sound in right knee. Eisendrath's patient (4½), an intoxicated individual fell down 10 or 12 steps backward. In Bullett's case (5) both patellae snapped, as patient was endeavoring not to fall. Wright's (6) patient fell and in attempting to regain his balance felt something crack in his knee. Durand's (7) patient ran into an obstacle, and, in falling backward, fractured his patella. Means (8) patient refractured his patella while lifting a heavy load. In a case reported by Wright (9), it is distinctly stated that the patient heard a crack in her right knee before hitting the steps upon which she fell. In another of Wright's cases patient lost his balance and fell backward while sparring.

In 447 cases, in which the sex of the patient is stated, 388 of these fractures occurred in males, and 59 in females.

Fractures of the patella are infrequent in childhood, and in adolescence.

In the literature of fractured patella of the last ten years, the youngest patient, in whom this accident occurred, was a male 10 years old. His fracture was compound. He recovered only limited motion (10). One of Bogart's (11) cases was a girl 14 years old. Her fracture was also compound. Cox's case (12), a compound fracture, was

a boy 15 years old. The oldest patient reported was 83 years of age. (13). In Vallas case 44, the patient was 70 years old. Trendelenburg (14) reports a case occurring in an individual 71 years of age. One of Lotheisen's patients (15), was 73 years old.

The line of fracture may be longitudinal, oblique, transverse, stellated. Communion is not infrequent. Avulsion of tip and of margin of base is reported (16). The part torn off may be the lower half-inch of the apex patellae (17). Meyer (18) reports some longitudinal fractures; the diagnosis of which was verified by the Roentgen-rays; some were due to direct violence, others, to indirect violence.

The fragments may be equal (rare) or unequal in volume.

The bone may be broken into 2, 3, 4, or more fragments. In cases reported by McWilliams, by Battle and by Doberauer (19 a, b, c.) there were 5 fragments. In cases reported by Erdman and by Fells (20 a, b.) 6 fragments were present; Dumstrey, Cassedebat and Ranzi (21 a, b, c.) report cases each presenting 7 fragments. In Modlin's case (22) the bone had been fractured into 9 fragments.

Associated with all fractures of the patella, hemorrhage, both intra- and extra-articular is present. The intra-articular hemorrhage is of symptomatic and of prognostic significance. The prepatellar bursa may be the seat of an hemorrhagic extravasate. This more frequently occurs in the fractures due to direct violence.

Owing to the fact that the elasticity of the soft tissues exceeds the cohesion of the bone, in tear fractures (those that are due to the overaction of the quadriceps extensor muscle or to the exaggerated traction of the ligamentum patellae,) the soft tissues do not yield at the same level as the bone. The bony fragments may be separated as much as 2 cm. before rupture of the overlying soft tissues occurs. (The tear in the prepatellar fibrous tissues may be above, or may be below the line of fracture.) These soft tissues may overlap, partially, or completely, one or both fractured surfaces. This fibroperiosteal curtain is not present in those cases, (they are few in number) of fractures of the patella in which there has not occurred a

coincident rupture of the prepatellar ligamentous and fibrous tissue.

Lucas Championniere (23), in reporting 70 cases, says that in a large proportion of them, a large flap of fibrous tissues coming from the anterior surface of the patella was interposed between the fragments. Baerlocher (24), in reporting 28 cases, says that in every one of his cases, it was seen at the time of operation that the fractured surfaces were covered by interposing soft part which, had subcutaneous suture or non-operative treatment been employed, would have prevented osseous union.

In complete fractures of the patella, the separation existing between the fragments may be slight, may be marked. It is always increased by flexion of the leg on the thigh. The capsular tears, the lacerations of the reserve extensor apparatus, play an important role in this fragmentary diastasis. In one of Fowler's cases (25), the interfragmentary space was $2\frac{1}{2}$ inches in width. In Ball's case (26), the fragments were 4 inches apart.

Another symptom frequently noted is loss of the power of extending the leg on the thigh. We find in the reported cases such expressions as "Limb useless"; "Functional disturbance similar to that of paralysis of quadriceps extensor muscle"; "Power to extend knee was absent"; "Absolute loss of function"; "Absolute impotency of limb"; "Impossible to extend lower limb"; "There was absolute extensor paralysis"; etc., etc.

The patella is not uncommonly the seat of refracture. This accident is more frequent in the first few months following the original accident. It may occur later, especially when flexion has remained limited. Among the causes of refracture may be mentioned:

1. Situation of the patella over a functionally active joint.
2. Atrophic condition of the bone.
3. Adhesion, as a sequel of the previous fracture, of the patella to the femur.
4. Forceful flexion of the knee, as by a fall, beyond the range of motion that has been acquired. It has occasionally been caused by the surgeon in an attempt to forcibly increase by passive motion, the flexibility of the knee (27).

Either the bone itself, or the fibrous union, may be severed, that is, the fracture may be above the bond of

union, may be below the bond of union, may be through the bond of union. Refractures are frequently indirect fractures in which the extensor apparatus yields at its weakest point, between the fragments, that is, at the ligamentous bond of union.

The patella may be twice refractured (20a).

Pilcher (28), presented to the Brooklyn Surgical Society cases of fractured patellae that had been treated operatively with success. At the same time, he showed some skiagrams. One of the latter demonstrated a patella with two different healed fractures. In this patella, the fractures were at different sites. In Turner's case (29), at the time of operation on it, was seen that the refracture was at the same place as the previous fracture.

In fractures of the patella, the following indications have to be met:

1. The fracture must be reduced.
2. The bony fragments must be maintained in intimate apposition until organic union has been effected.
3. The continuity of the divided soft tissues must be re-established.
4. The functional integrity of the knee-joint must be restored.

The value of any form of treatment is dependent upon its ability to meet the above indications. All forms of treatment can be classified into one or the other of two main classes: The non-operative and the operative. The latter admits of further subdivision into the subcutaneous and open methods.

It is evident, that in each individual case, the adoption or rejection of any form of treatment is to be determined largely by the nature, the type of fracture at hand. Each method has advantages and disadvantages; indications and limitations.

The numerous non-operative methods of treatment that have been employed; the large number of percutaneous and subcutaneous operations for approximation of the fragments, that have been proposed, lauded, tried, and then abandoned; the comparatively great number of patients, who, having been subjected to non-operative treatment, of themselves seek operative treatment, in order to lessen or entirely overcome their disability, all these are proofs that all the non-operative, and the sub-

cutaneous operative methods as well, have deficiencies which debar them from ever being elective methods of treatment.

Occasional cases are to be found in the literature of the subject, in which, though the operator succeeded in restoring to the patella its normal anatomical contour, functional integrity of the knee-joint was not secured. Our explanation for these cases is that some essential step in the operation has either been completely overlooked or unskillfully performed, or that the post-operative treatment has been injudicious. The extravasated blood may not have been removed from the synovial cavity; the lacerations of the soft tissue may not have been repaired, etc.

A distinction must be made between the shortcomings of the operator and the shortcomings of an operative procedure, as such.

Why do we advise the abandonment of the various subcutaneous and percutaneous operations? Because:

1. They do not enable the surgeon to accurately coapt the fractured fragments. After an arthrotomy, either by bone suturing, by circumferential looping or ligaturing, or by careful sewing of the torn soft tissues, the fragments can be closely apposed and held immovably together. This intimate apposition of the fractured surfaces lessens the liability to an excess, either in length or in width, or callus formation. Any change in the contour of the patella is liable to interfere with the normal adaptation of its articular surface to the femoral articular surface.

2. They do not enable the operator to freshen the fractured surfaces. In the repair of old fractures, the resection of the interfragmentary fibrous bond of union, the freshening of the fractured surfaces, are among the essential steps of the operation.

3. They do not insure against union of the bony fragments in a faulty position. Impaired function results from union in a faulty position. The open operation enables the surgeon to overcome any tilting of fragments, as well as any tendency to union in faulty position.

4. The subcutaneous methods make no provision for the toilet of the synovial cavity. The open operation allows of the early and complete removal of all articular

effusions, of all extravasated blood, intra- or extra-articular, liquid or elotted, of all completely detached bony fragments.

5. The tears in the capsule, the lacerations in the aponeurotic expansions of the vasti, demand repair. Only by means of an open operation can they be repaired. The extensor apparatus of the leg must be considered as one organ. Structural impairment of any of its constituent parts entails a corresponding impairment of function. The insertion of the vastus externus and of the vastus internus into the capsule of the knee-joint and the lateral prelongations of their insertions down upon the head of the tibia and fibula are of assistance in the extension of the leg on the thigh. Solutions of continuity in these tissues must be repaired.

6. None of the subcutaneous operations allow of the removal of the fibroperiosteal shreds which so frequently overlap the fractured surfaces and which in some cases have been found to adhere so tightly to bony projections that for their liberation it was necessary to use forceps and curette. These fibroperiosteal shreds are an obstacle to osseous union; they can be removed only by an open operation.

7. The subcutaneous and percutaneous operations create openings which are inadequate for the escape of intra-articular and extra-articular extravasates and exudates, but which are ample for the introduction of infection.

The probability of ankylosis, joint suppuration, or pyaemia following an aseptic arthrotomy, can almost be disregarded. In none of Mullin's cases (30), was there a rise of temperature worth mentioning. Stimson (31) between the years 1892-1906 performed the open operation for fractural patellae over 200 times. During this entire period, his only mishap was a slight suppuration, which caused no subsequent difficulty. We concede that the general dangers inherent to other major operative procedures are also present in these cases. These dangers, anaesthesia, shock, and suppuration, are common to all operations. Shock can be minimized by rapid operating. The time consumed in the performance of any operation should be the shortest consistent with the careful and complete execution of the different steps of the operation.

We will not, at this time, discuss the other two dangers.

We believe we are fully justified in stating that the dangers of the open operation, if it be performed with due precaution, by careful and skillful hands, are practically nil. There is always plenty of time to reach hands well able to perform the operation.

What are some of the advantages of the open operative method?

1. Refracture of the patella is more common after massage and other forms of non-operative treatment than after the open operative treatment. Alessandri, Gibbon, (32a, b). Refracture is more frequent in the patella than in any other bone, Lanper (32c). By more closely restoring the bone to perfection, the open operative treatment lessens to a considerable degree the tendency to fracture.

2. In any fracture, the union between the fractured fragments which is considered the most desirable, is osseous union. Modern surgeons do not expect to obtain osseous union in fractures of the patella which are treated non-operatively. Its occurrence under such conditions, though possible, is so rare that it is considered a pathological curiosity. One of the main justifications of the open operative treatment is the frequency with which osseous union follows its employment.

It being a demonstrated fact that osseous union can be obtained, it behooves us to employ that method of treatment which most frequently secures it.

It cannot be contended that the solidity of the patella contributes, in a great measure, to the stability of the knee-joint. Fibrous union of the fractured bone imparts to the articulation a weakness, an uncertainty, an instability, as a result of which patients with fibrously united patella, frequently fall. This lack of stability, this impairment of control, predispose to refracture of the fibrously united patella. It is exceptional for fibrous union are handicapped noticeably in going up or down stairs. A fibrous bond of union has a tendency to elongate under use.

3. The open operations enable us to obtain a mere raid, a more complete recovery. Koerte considers that the climbing of stairs after fracture of the patella is a criterion of functional recovery.

4. The open operation enables the operator to mitigate all and to remove most of the conditions that tend to cause imperfect union and its consequence, impaired functional integrity. Let us enumerate and discuss briefly the most important of these unfavorable conditions to osseous union.

1. Separation of the fragments.

2. Tilting of the fragments. Either or both fragments, often, are or may be, everted or inverted. In the presence of tilting, the fragments can never be maintained with the fractured surfaces exactly towards each other either by bandages or by retentive appliances, or by any subcutaneous operative method.

3. Rupture of the tendinous expansions of the vasti and of the lateral, portions of the capsule of the joint.

4. Prolapse of the prepatellar tissues into the breach caused by the separation of the fractured fragments.

5. Atrophy of the quadriceps femoris due to disuse, arthritis, marked contusions of the muscle, extravasated blood from the joint through the rent in the upper part of the capsule, etc.

6. Arthritis of the knee-joint.

7. Adhesions of the patella. Hamilton and Erdman report cases in which the upper fragment was found adherent to the femoral condylæ.

8. Union of the fragments in bad position, mechanically interfering with proper function of joint.

The interfragmentary interval, in recent fractures, can be increased by flexion of the leg on the thigh, and lessened by extension of the thigh and leg on the pelvis. The displacement varies with the type of fractures, being practically non-existent in incomplete subaponeurotic fractures, being most marked in such cases as are associated with extensive laceration of the prepatellar and parapatellar fibrous and aponeurotic tissues. A group of powerful muscles is attached to the upper fragment and in oblique and in transverse fractures displaces it upwards. This muscular group, the quadriceps extensor femoris muscle, must be properly controlled, as it constantly tends to separate the fragments. The retraction of the ligamentum patellæ displaces the lower fragment downwards and also has a tendency to evert its fractured surface. The upward displacement of the upper frag-

ment by the quadriceps extensor femoris muscle, of itself, would not make the open operation imperative, as the contraction of this muscle and the associated displacement of the upper fragment can be greatly overcome by position, by clamps, by forcible and prolonged extension by the subcutaneous and percutaneous methods of vertical or circumferential ligaturing of the patella. The open method enables one to determine the extent to which the fragments are separated and to take such steps as may be needed to overcome it. The surgeon is enabled to bring the fragments into more exact apposition and to more positively maintain them there. By the open method, increase in length of the patella is avoided. Increase in the dimensions of the patella is not infrequently noticed after the subcutaneous operations, and sometimes appears to limit mechanically flexion of the knee.

One or both fragments may be everted or inverted, or may be everted and the other inverted. If the bone be fractured into more than two fragments, one or more of the fragments may be everted or inverted. Tilting of the fragments, though partly due to the traction of the fibro-aponeurotic tissues attached to the anterior surface of the patella is mainly dependent, at first, on the intra-articular hemorrhage, and later, on the inflammatory exudate consecutive to the injury. As these fractures are almost always intra-articular, an associated traumatic synovitis is a nearly constant accompaniment. At times, a spicula of bone between the fragments is a contributory factor. The tilting of the fragments decreases, often disappears completely, with the absorption or with the removal of the extravasated blood and of the inflammatory exudate. By keeping the limb in an appropriate position, by controlling the fragments by elastic or other bandages, so applied as to secure apposition of the fractured surfaces, tilting is further lessened. The open operation enables us to quickly and completely remove exudate, to make the toilet of the synovial cavity.

In fractures of the patella, as in other fractures, in addition to the lesion of the bone, we have co-existing injuries of the contiguous soft tissues.

When one recalls the intimate relations with the patella of the fascia, muscles and ligaments which surround it, no stretch of the imagination can possibly conceive a

fracture of this bone without some associated damage to the surrounding structures. The more extensive that damage, the greater the separation of the bone fragments, the less the liability to spontaneous functional recovery. Vallas, Mikuliez, Baerlocher, Lejars, and Stimson emphasize the importance of restoring the continuity of the torn reserve extensor apparatus.

Upon the proper repair, upon the proper reunion of these soft tissues is dependent, in an important measure, the functional integrity of the knee-joint. E. W. Andrews says that the patella union is only an incident in the ligamentous and tendinous repair by stature. So important is the approximation of these torn tissues, so essential is the restoration of the continuity of the aponeurotic fibres of the vasti, of the rectus femoris, and of the deep fascia of leg and thigh, that many operators in the treatment of fractured patellae limit all their suturing to the torn soft tissues. It has recently been shown that, in operating upon these fractures, it is even more important to suture the lateral ligaments than to suture the patella itself. The tears in the joint capsule and in the aponeurotic fibres allow the quadriceps extensor femoris muscle to still further separate the fragments and to increase the forward eversion of the superior fragment. The open method enables the medical attendant to carefully repair the tears, anterior and lateral, in the joint capsule (the patella forms a part of the articular capsule) and to approximate the margins of all lacerations in the tendinous expansions of the vasti. The active extension of the leg depends in a large measure upon the state of the reserve extensor apparatus.

The prolapse of the prepatellar fibrous tissues between the fragments of the fractured bone is one of the important obstacles to non-union. The prevention by these intervening soft tissues of the exact apposition of the fragments is one of the most valid reasons for resorting to the open operation. When present, these interposed soft tissues constitute an obstacle to osseous union, removable only by the open operation.

These interposed soft tissues constitute a fibroperiosteal curtain which may overlap the fractured surface of either fragment. In some cases, both fractured surfaces are either partly or completely covered by this prolapsing

prepatellar tissue. These prolapsed tissues may be easily removable, may be hooked to the underlying bone. When hooked to the fractured surfaces their removal is, at times, attended with some difficulty. In many fractures of the patella, be they tear or blow fractures, or due to both factors, the prepatellar bursa is contused. Blood and portions of the prepatellar bursa can enter into the formation of the prolapsed prepatellar curtain, being superimposed upon the aponeurotic tissues.

By the aid of the open operation, all interfragmentary soft tissues are easily removable. Bony union presupposes an exact apposition of two osseous surfaces. Blood interposed between the fragments, we do not consider as a foreign body, it being well known that the presence of blood is constant between fractured surfaces. Intervening tissues of other description act as foreign bodies and are productive either of fibrous union or of non-union. We concede that massage relieves pain, promotes the circulation, and aids in the removal of exudates, but can it accomplish anything towards the removal of the soft tissues that have prolapsed in the breach between the fragments? The attempt to remove the interfragmentary soft tissues by rubbing the fractured surfaces one upon the other is illusory. Interposed soft tissues can be removed with certainty only by means of the open operation.

The atrophy of the quadriceps femoris muscle found in these cases is due partly to disuse, partly to extravasation of blood in the substance of the muscle, partly to associated injury to the muscle and to its contained nerve filaments. By the aid of the open operation, all blood extravasates can be removed, fascial tears sutured.

The patients regain the use of their limbs in a comparatively short period of time, the period of immobilization is markedly shortened. Active use prevents and overcomes atrophy, attendant upon disuse. Atrophy of the quadriceps extensor femoris was recorded in the cases reported by Rosenberger (33a), by Straeter (33b) etc. The early removal of all extravasated blood, liquid or clotted, from the articular cavity and from the peri-articular tissues, limits the liability to the formation of adhesions, intra- and extra-articular in nature.

By the employment of the open operative treatment, all the above-mentioned obstacles to restoration of func-

tional integrity can be more rapidly, more effectually overcome than by resorting to non-operative methods of treatment separate or combined. The open method makes possible the removal from the joint cavity of detached bony fragments; it enables the operator to absolutely prevent the union of the fragments in a faulty position, that is, in a position mechanically interfering with the proper function of the joint; the tendency to adhesion of the upper patellar fragment to the femoral condyles is lessened. Increase in the dimensions of the patella following the open operative treatment is a rarity. Any increase in the dimensions of the patella is very liable to interfere with the adaptability of the patellar and femoral articular surfaces.

Under what conditions is the open operative treatment of doubtful propriety or not indicated?

In formulating indications and contra-indications for the open operative treatment of fractures of the patella, we give only slight consideration to age, sex, and occupation. Individuals of either sex, at all periods of life, and in all walks of society, need a good patella. However, in this, as in all other operations, the state of the tissues and of the viscera must not be ignored. Such anatomical and physiological deterioration of the tissues may be present as to compel us to regretfully substitute inferior therapeutic measures to operations of election. The facts can be stated to the patient and he can select between functional integrity and functional disability. Thiem (34), gives only two conditions as contra-indicating operations:

1. Absence of separation of the fragments. (No diastasis).
2. No loss of extension.

We do not advise the open operation:

1a. In fractures of the patella that occur in a diabetic patient. The tissues of diabetics offer very little resistance to infection. They are tissues of impaired regenerative power. Nevertheless, an absolutely bad prognosis need not be given in these cases.

1b. In fractures of the patella occurring in patients having advanced tubercular disease.

1c. In fractures of the patella occurring in patients suffering from well developed cariac, renal, or hepatic disease.

2. In closed longitudinal fractures, with no displacement, or with but slight lateral displacement.

In fractures of this type, recovery almost invariably follows the combined use of such measures as massage-immobilization, full extension of leg on thigh, coaptation of the fragments by retentive apparatus. "Osseous union is constantly obtained in longitudinal fractures of the patella" Macewen (35). This statement of Macewen admits of very few exceptions. Meyer (36) used non-operative treatment in all his cases of longitudinal fracture (the diagnosis in each case had been verified by X-rays). He obtained excellent functional recoveries in all of them.

3. Do not operate in subaponeurotic or in incomplete fractures. Reichel calls these fractures "subligamentous." Koenig alludes to these cases when he states that in a certain number of fractures of the patella, the bone can be fractured and the overlying aponeurosis remain intact. Owing to the absence of detectable separation, of detectable displacement of the fragments, as well as of other typical symptoms, these fractures often escape recognition, often are diagnosed contusions, etc. The X-rays reveal the line of fracture easily and distinctly. It is important that these cases be accurately diagnosed. By non-diagnosis and consequent injudicious treatment, these cases that call for non-operative treatment can easily be converted into cases calling for an arthrotomy. Wegner (37) reports 3 cases of knee-injuries associated with disability of some duration. Previous to the taking of skiagrams, the exact nature of the condition had not been recognized. The X-rays showed that the patients were suffering from subaponeurotic transverse fractures of the patella in which the interfragmentary diastasis could not, or had not, been detected clinically. These X-ray pictures also proved that tear fractures can occur without very evident diastasis of the fragments.

4. Fractures of the patella in which the separation of the patellar fragments is so slight as to be barely detectable do not call for the open operative treatment. The same applies to fractures in which the injuries to the accessory patellar ligaments are unimportant.

5. Do not operate on patients who prefer to pass their lives partly disabled rather than to run the minimum dangers of an operation.

The popularity of the open methods is increasing. In careful and skillful hands, the dangers formerly incident to their employment can now be said to be non-existent. Kocher himself has become an earnest advocate of the open operative treatment. In Von Gergmann's Clinic, it is regarded, since 1893, as the routine treatment for transverse fractures of the patella.

With increasing familiarity, with the successive steps of the operation, and a better appreciation of a judiciously carried out after treatment, the results attending its employment are becoming more and more satisfactory.

It is our belief that, after ample preparation of the patient and of the operative field, the open operative treatment is positively indicated:

1. In all fresh fractures of the patella in the absence of contra-indications:

(a) If the surroundings are favorable

(1) An aseptic operating room.

(2) Skilled surgeon, and assistants having "an aseptic conscience."

(3) Dependable suture material, rubber gloves, etc.

(b) If the patient is in the best possible condition.

(c) If the fracture be of such a nature that a disabling defect is to be expected, if one resorts to non-operative treatment.

(d) When the bony fragments cannot be returned exactly by manipulation to their normal position and retained therein by retentive apparatus.

2. In all compound fractures.

3. In all comminuted fractures.

4. In all cases associated with considerable intra-articular effusion. The separation and tilting of the fragments is partly produced and partly maintained by the intra-articular effusion, be the latter hemorrhagic or inflammatory in nature.

5. In all cases associated with marked laceration of the periarticular tissues (aileron, reserve extensor apparatus.)

6. In all cases in which the interfragmentary space or diastasis has not at any time exceeded 3 cm. This extent of separation cannot occur without laceration of the accessory patellar ligaments without rupture of the overlying fibroperiosteal tissues. Chaput (38), as a result of

experiments on dissecting room subjects came to the conclusion that the interposition between the fragments of the prepatellar fibroperiosteal tissue does not occur if the diastasis fails to reach 3 cm.

7. In such fractures as are very liable to cause serious functional joint impairment; among such may be cited, cases in which bony fragments have escaped into the articular cavity, as in McWilliam's case (19c) in which three loose pieces of bone were removed from the joint; operation, good result. Patient walked out on 28th day.

8. In all fractures of the patella occurring in individuals upon whom at one time or other a leg or thigh amputation has been performed. To such individuals complete integrity of function in the remaining limb is of the highest importance.

9. In all fractures of the patella occurring in individuals having some permanent functional impairment of the opposite knee, for instance, in one of Mayer's cases (4). In early life, this patient's left knee had become resected. At the age of 35, she fractured her right patella. It was circumferentially looped by the open method. The coaptation was perfect. Result "very satisfactory."

10. In all individuals who, having sustained a partial amputation of the leg, can, for flexion and extension of an artificial limb, derive benefit from the preservation of the integrity of the extensor apparatus of the leg. In Charters' case (45), the lower third of the leg had been removed. Two months later, while walking on crutches, patient fell and fractured the patella of the same limb. It was wired. Complete restoration of the knee-joint movements resulted.

11. In all bilateral fractures of the patella, be they of simultaneous or of successive occurrence. In bilateral patellar fractures, it is reasonable to assume some risk in an attempt to transform an almost certainly dependent individual into a self-supporting one.

12. In all refractures in the absence of contra-indication.

13. In old fractures of the patella, associated with marked impairment of function, if the functional loss be dependent wholly or partly upon one or more of the following factors:

(1) Long fibrous union.

(2) Union in a faulty position, in a position that mechanically interferes with the proper function of the joint.

(3) Absolute non-union.

(4) Ankylosis of the upper patellar fragment to the femur.

(5) Extensive non-repaired lacerations of the aponeurotic capsular and other fibrous tissues. These lacerations hinder restoration of function, increase the fragmentary diastasis.

The patella is only a part of the extensor apparatus of the leg; an important part, we admit, but not the sole part.

(6) In all cases in which non-operative treatment has been followed by unsatisfactory results. In operating on old fractures of the patella it is imperative, previous to the apposition of the fragments, that the fractured surfaces either be freshened or that a thin slice of bone be sawn off from each of the surfaces.

As a general rule admitting of many exceptions, it will also be noticed, that the older the fracture, the greater will be the degree of secondary contraction and of atrophy undergone by the quadriceps extensor muscle. The more marked this muscular atrophy and the greater the interfragmentary diastasis, the more disabling will be the functional impairment.

In old, as well as in all other fractures of the patella, we must, in addition to repairing the tears in the soft tissues, endeavor to obtain osseous union of the fractured bone. This desideratum can be effected only by securing an exact, an accurate apposition of the freshened fractured surfaces. Consequent to the fracture and to the disability which it entails, there develops a retraction and an atrophy of the quadriceps extensor femoris. This muscular contraction, this muscular atrophy, is the most important cause of the great difficulty, a difficulty at times almost insurmountable, which we encounter in our endeavors to approximate, to appose, to reunite the bony fragments. As easy as is the primary suture of a fractured patella, just as difficult can be the suture of an old fracture of the patella. It is convenient, from the operative standpoint, to classify old fractures of the patella into:

A. Those in which the fragments can be approximated with but little difficulty.

B. Those in which owing to the coexisting atrophy and unusual retraction of the quadriceps extensor femoris muscle, the approximation or rather the exact apposition of the fragments is a difficult feat to accomplish.

In cases in which the fragments can be approximated with but little difficulty, the operation will differ from that performed in recent fractures only by requiring two additional steps.

1. The resection of the interfragmentary fibrous callus.
2. The freshening of the fractured surfaces.

It is essential that the interfragmentary gap be overcome. Z-shaped incisions for lengthening of the quadriceps may have to be performed. To approximate the fractured surfaces, preoperative massage, position, and traction at times suffice. If these measures fail to secure the relaxation, the lengthening of the quadriceps necessary to obliterate the interfragmentary gap, a plastic operation is indicated.

Which is the most universally applicable of the three main types of operation that are now in vogue for the treatment of fractured patellae?

The results obtained by the employment of any of these three dissimilar operations, osseous, suture, cerclage, suture des ailerons, have been, when the operation was performed by competent hands, so gratifying, that it is embarrassing to suggest that one of them be abandoned. With each of these different methods, excellent functional and anatomical recoveries have been obtained. Osseous suture has given satisfactory results. Cerclage has secured excellent recoveries. As to the third method, it has been truthfully said: "In fractured patellae absolutely perfect results from the standpoint of contour, solidity, and function have been obtained, in a relatively short period, in cases in which all suturing was limited to the prepatellar and parapatellar fibrous tissues (Peyrot)." Whichever method be employed, the repair of the soft parts is all important. The importance of this step is emphasized by most of the advocates of osseous suturing.

In recent fractures of the patella, I have abandoned osseous suturing. I have not yet seen a case of old fract-

ure of this same bone in which I felt that a good result could not be obtained without the employment of osseous suturing.

To my mind osseous suturing, as a method of treatment for fractures of this bone, has the following shortcomings:

(a) It calls for special instruments.

(b) The perforating instrument may break, and the broken portion remain embedded in the patella. Annequin (46) reports a case of this nature. The drill broke and a fragment of it was left in the patella.

(c) It is a procedure not universally applicable:

1. It is unsuited to the treatment of comminuted fractures.

2. It cannot be used to advantage in cases in which there is great inequality in the size of the fragments; one very large and one very small fragment. The lower or upper fragment may be that small that it could only afford an insufficient hold to the sutures. In case of this description, many of the advocates of osseous suture resort to Queen's "hemicerclage," operation. In this operation, hemicerclage, the larger fragment is perforated transversely and the binding ligature is passed through this perforation and either through the ligamentum patellae or through the quadriceps extensor femoris, through the latter if the lower patellar fragment be perforated; through the former, if the upper patellar fragment be the one perforated. Longitudinal suturing of the fragments may be owing to the unequal volume of the fragments or to their multiplicity, a very difficult operation.

(d) In cases of abnormally friable fractured patella, attempts to perforate the fragments may provoke further splintering of the same (39). The slow elimination of splintered fragments prolongs convalescence, retards recovery.

(e) The proper boring in the patella, from before backwards, of channels for the introduction of the sutures, demands experience. At times, it is difficult of execution. The perforation of the bony fragments always complicates and always lengthens the operative procedure.

(f) In cases of secondary operation, the fragments may have become so atrophic that they are incapable of

holding the sutures. The latter are liable to cut out, the moment any strain is put upon them; as in Tanderich's case (47), in which the fragments were so soft that a medium pull upon the silver wire cut into them.

(g) It is needless. It adds injury to injury. Equally good if not better results are obtained by less difficult and less laborious methods.

Open circumferential looping was introduced by Berger (40) of Paris. It is employed by the advocates of osseous suture of fractured patella, in acts:

1. In which one of the fragments is too small to admit of perforation previous to the introduction of the silver wire, steel wire, or other employed sutured material.

2. In which one of the fragments is too small to be directly sutured to the larger fragment.

3. In fractures with many fragments or with comminution.

4. In cases of abnormal friability of the patella.

It has been and is still extensively employed in the treatment of fractured patellae, as (a) a supplementary measure to osseous suture; (b) as a preliminary, or as a supplementary measure to suture of the prepatellar and parapatellar tissues. By many, it is employed as the only operative step in the treatment of fractures of the patella.

The advantages of circumferential looping or cerclage are (a) that its employment inflicts no additional traumatism upon the periosteal and osseous tissues. The osseous and cartilaginous surfaces are uninjured by the passing of the circumferential ligature. It respects the skeleton. (b) That the ligature material which loops the patella is totally extra-articular. It is introduced and embedded in the peripatellar tissues. Should a metallic ligature, such as silver wire, be used and its presence subsequently cause real or imaginary disturbances, the removal of the real or supposed offending agent can easily be effected without opening the articulation. It respects the articulation. (c) The method is of easy and of rapid execution. The maneuvers incident to its introduction are extra-articular. It can be used as a preliminary or as a supplementary step to any of the various open operative methods in vogue. It no doubt contributes to the exact coaptation of the bony fragments. As far as it goes, this pro-

cedure (cerclage) is safe, logical, and serviceable. No special instruments are required for its performance. To our eyes, circumferential looping, as a method of treatment, has the shortcoming of insufficiency. We use cerclage as a preliminary, or as a supplementary measure to suture of the prepatellar and parapatellar tissues.

Study of the literature of the subject, surgical experience, and clinical observation have led me to consider that the following are the most universally applicable operative steps to be conjointly employed in the treatment of such fractures of the patella as demand operative intervention.

1. The torn prepatellar fibroperiosteal tissues must be carefully sutured. E. Wyllis Andrews, instead of uniting these torn prepatellar tissues, end to end, sutures them in such a way that they overlap one another, that is, they are imbricated one within the other, "shingled as it were."

2. All tears in the parapatellar tissues must be sewed up. It is imperative that all capsular rents be carefully repaired. The suturing of the peri- and parapatellar soft tissues has the approval of all clinicians.

3. To contribute to the maintenance in apposition of the fragments, the patella is circumferentially looped by a ligature passed close to its periphery. This ligature is passed so as to be close to the periphery of the bone, so as to hug it, as it were. It is inserted in such a way that it lies imbedded in the substance of both quadriceps tendon and ligamentum patellae midway between their anterior and posterior surfaces. If deemed necessary, two such looping ligatures may be used. These different maneuvers are all extra-articular. In some comminuted fractures in which the interfragmentary diastasis was slight and in which the prepatellar tissues were practically untorn, I have often limited the operative procedure to looping the patellar fragments and to fortifying the prepatellar tissues by the introduction of a few V-shaped kangaroo tendon sutures, not exposing the articular surfaces to inspection.

Should one, if he be an advocate of the open operative treatment, operate on the day, or on the morrow, of the infliction of the injury, or should he wait until the soft

tissues have somewhat recovered from the immediate effects of the traumatism?

In looking over the literature of the subject, it will be noted that there is great diversity of practice as to the length of time allowed to elapse between the occurrence of the injury and the performance of the reparative operation. In the treatment of compound fractures of the patella, delay is injudicious. In early attempt should be made to remove or to counteract what infection has been implanted in the tissues, and adequate measures should be taken, having in view the protection of the tissues and of the articulation from skeptic contamination.

In all compound fractures of the patella, the time allowed to elapse between the injury and the operative intervention should be the shortest consistent with the modern surgical preparation of the operative field.

It has been our practice in fresh subcutaneous fractures of the patella, to defer operation for from 3 to 5 days after the injury, being guided somewhat by the patient's general condition and also by the evidences of local trauma. The congestion and inflammatory exudate consecutive to the injury have usually by this time begun to retrogress. Our results having been satisfactory, we are averse to change.

The time interval between the day of injury and the day of operation enables the surgeon to become better acquainted with the patient's general condition, to better familiarize himself with the type of fracture which confronts him, and to better asepticize his operative field. Owing to the wrinkled, thickened nature of the skin of the front of the knee, its surgical purification presents some difficulty.

What we consider indispensable, what we consider of paramount importance, is the surgical preparation of the operative field. During the entire preoperative interval, all flexion of the leg on the thigh is prevented by a posterior, moulded plaster of Paris splint, which maintains the thigh slightly flexed on the abdomen and the leg fully extended on the thigh. The elevation of the limb relaxes the rectus femoris muscle. The latter, by virtue of its origin above the hip joint, has a tendency to draw the upper fragment upwards. By compression exerted either

by gauze or by elastic bandages, extra-articular effusion. In operating these cases, we always use rubber gloves.

Should the operative field be rendered bloodless by the employment of an Esmarch bandage? What should be the nature of the anesthetic employed? Local, lumbar, or general anesthesia?

As a prophylactic measure against hemorrhage, or as an aid to secure a bloodless operative field, it is rare for surgeons to make use of the Esmarch bandage, or band, in their operations, for fractured patellae. Thienger (41) and Oehlecker (42) employ it. Its general non-use is evidence enough that clinicians do not consider it of any great assistance in these cases.

The Esmarch's band, applied according to the ordinary rule, interferes, while in position, with the normal elasticity of individual muscles and of muscle groups, may hinder the bringing down, the pulling down, of the extensor muscles of the thigh, and consequently render difficult the approximation of the patellar fragments. The oozing into the articulation and tissues that follows its use is another undesirable feature attending its employment. We know of no valid reason for its preliminary use in operations for fractured patellae.

Chaput, Lotheisen, and Stimson have each with success, operated fractured patellae under local anesthesia. Chaput and Stimson used cocaine; Lotheisen employed Schleitch's infiltration method. Ranzi in one case resorted to anesthesia, obtained by lumbar puncture and subarachnoid injections. Mikulicz in several cases used lumbar spinal anesthesia. In one case Mayer also resorted to lumbar anesthesia.

In Chicago, in operations of this nature, in the absence of contra-indications, we almost invariably use general anesthesia. General anesthesia enables the operator to more thoroughly protect the patient from pain, to better guard against accidental septic contamination, to secure a more complete muscular relaxation, to proceed more deliberately, to modify his procedure so as to better adapt it to the needs of the case at hand.

By what type of incision is the operator best enabled to perform the repair work which he deems appropriate and necessary?

Large, methodically carried out incisions are infinitely less dangerous than small openings. The latter fail to fully expose the operative field, do not enable the operator to satisfactorily cleanse the joint and do not facilitate the careful repair of the lateral capsular and aponeurotic tears.

In operating for fractured patella I generally employ for the exposure of the parts, a flap having its convexity downwards. The incision commences on a level with the upper margin of the patella, about one inch to one side, from here it passes downwards to a point a little below the apex of the bone, from where it is continued across the limb, and carried to a point corresponding to that from which it started. This incision does not interfere in any way with healing. Jacobson & Rowland (43). It is thought that an incision with the convexity downwards, better secures the vitality of the flap than one with the convexity upwards.

These convex incisions afford a good exposure of the parts, facilitate the removal of intra- and extra-articular exudates and extravasates, give good access to the bony fragments and allow of careful repair of all capsular pre- and parapatellar tears. If drainage of the peri-articular tissues is necessary, it is easily secured. With a longitudinal incision, drainage is somewhat difficult.

Is it advisable in these cases to irrigate the articulation; if so, with what fluid, an antiseptic solution, irritating or non-irritating, or merely a bland, non-irritating cleansing agent, such as normal salt solution or is the mere sponging out from the synovial cavity of the extravasated liquid and clotted blood, productive of the most satisfactory results?

Joint irrigation with irritating antiseptics, such as carbolic acid and bichloride of mercury, we condemn. Any agent acting as an irritant upon joint endothelium, lowers its resistance to infection, predisposes it to inflammation. In flushings or irrigations of the joint cavities with normal salt solution, which solution is in itself unobjectionable, we fail to see much value. Of what advantage can it be to waterlog the tissues?

In operations interesting the pleural cavity, we do not irrigate that chamber to secure the outflow of any effusion collected in the pleural space. To accomplish this, rel-

iance is placed upon the elasticity of the chest wall, the inspiratory expansion of the lung, the ascent of the diaphragm and the use of a drainage tube. In operations upon the peritoneal cavity, we do not flush this space to remove contained exudates and extravasates; we simply gently swab and mop.

In arthrotomy for fractured patellae, we do not irrigate either the joint or the surrounding tissues. All liquid and clotted blood are removed by gauze swabs mounted on artery forceps. The sub-quadricipital synovial cul-de-sac is not overlooked, and all liquid and clotted blood therein contained is removed. The swabbing is done with great gentleness, the object being to minimize the trauma inflicted.

Should non-absorbable or absorbable suture material be used? Are there any valid reasons for discarding non-absorbable suture material?

We refer here only to buried or irremovable suture material. If the suture material be so inserted as to be removable, once organic reunion of the divided tissues has taken place, it matters little (owing to the removability of the suture material) whether absorbable or non-absorbable material be employed. For instance, Vallas (44) and others, lacking confidence in the tensile strength of catgut, doubtful of the adequate sterilization of the same, and also being unwilling to abandon foreign material in the body tissues, for the approximation of the divided tissues make use of removable metallic sutures.

In operations for fractured patellae, buried sutures of absorbable and non-absorbable material have been and still are used.

We consider it unwise to abandon non-absorbable suture material permanently in the articulation or in the peri-articular tissues, because:

a. Clinical observation has shown that metallic sutures frequently irritate the tissues, lower their vitality, increase chances of infection, and may require subsequent removal.

Metallic sutures may become loosened, may break, and fragments escape into the articular cavity, by which they are poorly tolerated. In one case, reported by Ranzi, three portions of wire escaped into the articulation.

The embedding of wire sutures in the patella does not add to the solidity of the patella.

Non-absorbable sutures, be they inserted transversely or sagittally, cannot be considered permanent splints.

Von Brunn, as a resume of his investigations, came to the following conclusions:

Silver wire has not sufficient resistance to guarantee bony union of the fragments.

Even when the fragments are healed together, the wire may break.

Parts of the broken wire may wander into the articulation, or into the peri-articular tissues and can excite disturbances at point of lodgment. It has been claimed by Thiem, etc., that metallic sutures suggestively hinder in some patients, the cure of the subjective troubles.

Shall completely detached bony fragments be removed? If completely detached bony fragments be present, their removal is one of the essential steps of the operation. It has been repeatedly done, and satisfactory results have ensued. The escape into the articulation of completely detached patellar fragments and their non-removal therefrom, leads to all the functional and anatomical articular disturbances inseparably associated with mobile foreign joint bodies.

Shall the peri-articular tissues be drained?

In clean cases, subcutaneous drainage is needless. Its employment serves no useful purpose. It retards the healing of the skin wound. Why complicate an operative procedure by a useless step?

Shall the articular cavity be drained? In simple fractures, no. In compound fractures, yes. In non-infected cases, if the operator has conducted an aseptic operation and if the hemostasis of the operative wound is satisfactory, drainage is superfluous, is more harmful than helpful. In compound fractures, we are dealing with presumably infected wounds (in fact all wounds not inflicted by the surgeon must be so considered) therefore in them, drainage, from the standpoint of prophylaxis, meets an indication.

The modern tendency is to employ drainage only in the presence of absolute indications; and to discard it, when in doubt as to its utility in the case at hand. When unneeded, drainage instead of contributing to rapid aseptic

healing, has a tendency to act as an irritant. In the etiology of inflammation, irritants are considered predisposing and exciting factors. We have not as yet operated on a case of subcutaneous fracture of the patella in which we have either drained the articular cavity or the peri-articular tissues.

What should be the duration and the nature of the post-operative treatment? As yet, the practice of the different operators as to nature and duration of post-operative treatment is most dissimilar. We proceed as follows: Immediately after the operative procedure and the application of the protective dressing to the wound and while the patient is still anesthetized, moulded plaster of Paris splint is applied to the injured extremity. This splint should be amply padded, should cover the posterior and lateral surfaces of the limb and should extend from about 10 cm. above the external malleolus to the gluteal fold. The object of this splint is to immobilize the extremity in the position of full extension of the leg on the thigh, and of slight flexion of the thigh on the abdomen. The slight flexion of the thigh on the pelvis has for its purpose the relaxation of the rectus femoris muscle. During the patient's confinement to bed attention must be given to the heel and to the toes. So as to avoid the development of a pressure-sore upon former, the heel should be protected by a doughnut pad or other means. By the use of a "cradle" the toes will not be subjected to the weight of the bedclothes and talipes decubitus will not ensue. In the absence of a marked elevation of temperature, of intense pain, of saturation of the dressings, the protective gauze dressings on the joint remain undisturbed for from 10 to 15 days, then, if indicated, the removable sutures are ablated. The immobilizing splint is kept in position for about a month. As to the duration of immobilization, the practice of the various operators is far from being in accord. Rigby allows his patients out of bed on the 14th day. Quenu does not allow them to leave their bed before the 25th day. Lucas Championniere considers prolonged immobilization a "detestable method." Lejars suppresses all immobilization on about the 10th day after the operation. Moullin allows patients to start walking during the third week. Berger begins mobilization of the knee on the 15th, 16th, 20th, or 25th

day. Schwartz does not allow flexion of the knee previous to the 25th day. The first motions of the patella should be lateral motions. We do not begin flexion of the leg upon the thigh previous to the expiration of one month from the day of the operation. The first attempts at flexion should be cautiously made. With use, the range of motion gradually increases; in many cases the restoration of joint function is complete. When flexion to a right angle has been recovered, the patient is discharged from further observation.

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CHRONIC NASOPHARYNGITIS, WITH ELONGATED UVULA.

DR. GEO. A. ROBERTSON,
LOUISVILLE, KY.

To the ordinary observer chronic nasopharyngitis is a distinct disease. But careful study brings to one's knowledge the following facts:

It is dependent upon changes intra-nasal almost always. That the uvula is also rarely involved primarily, and that cases of elongated uvula never need amputation. These facts are nicely brought out in the following cases.

CASE 1.—A. B.; age, 25; male.

Complained of constant irritation in the throat, associated with cough, occasional loss of voice and some increased amount of secretion, especially in the morning. Has been advised to have uvula clipped, to relieve the irritating cough.

Examination reveals the nose partially blocked by large inferior turbinates and a tendency toward chronic rhinitis, with some secretion. The first thing that appears upon looking into the throat is an elongated uvula, resting upon the back of the tongue. The posterior pha-

ryngeal wall dry and red; the faucial pillars swollen slightly, and the grey streakings of mucus hanging back of the soft palate. With the rhinoscopic mirror there is shown redness and thickening of the soft palate. Some evidences of an adenoid in the vault of the pharynx over the large posterior tips of the inferior turbinates. The diagnosis of a chronic nasopharyngeal catarrh is made.

Now, what is the cause? What shall be our method of giving relief?

The patient comes seeking especially to be cured of the cough, and requests that the uvula be cut off. There can be but few cases where the need for removal of so in-offensive an organ or muscle as the uvula can ever be justified. The mechanical forces that act upon the uvula to elongate it are interference with its normal circulation, and we are dealing with the effect of increased weight as a reason for its increased size. Sometimes the uvula will be large, red, and seem to fill up the whole throat. At other times there develops a pearly, clear bulb or ordinary swelling at its extremity; and again, it stretches out till its length is twice that of the normal. Does this cause the cough? Are we in the right when we make the uvula carry the blame for all the complex of symptoms of which the patient complains? Does not the examination show us greater source of disturbance than just this little scrap of muscle tissue? But if the cough subsides when the uvula is cut off, are not the results satisfactory? Does it not relieve the symptoms? Is not our patient better?

Probably there is not always pain after a uvula is amputated, but generally it is about the sorest place you can find; and it is associated with fever, and systemic disturbance; the whole throat partakes of the inflammatory changes. Gradually the patient gets back into a normal state, and if in after time other attacks come, of coughing and a husky voice, it is charged to the throat, because the uvula is no more.

Careful observation will show in all cases where the uvula is enlarged, thickened, or elongated, that there are changes and thickenings at the base of the uvula too. In every case it will be found that in the post-nasal space there is an old adenoid stump inflamed, or a focus of infection in the pharyngeal vault; and disordered circulation, with infiltration, as a result. The swollen, enlarged uvula is not diseased; it is but a simple and mechanical

evidence of this interference with the normal circulation high up in the nasal pharynx, and the impeded returning blood-stream finds no easy outlet, and the weight and the bulk together produce the change in size. If we cut off the uvula, we deplete the congested area by the hemorrhage. We set up irritation at a new point, stimulate an increased amount of blood to the parts, and start the secretions by unusual stimulation. This great increase of new blood rushing into a district where chronic congestion had been the daily condition, washes out old infiltrations and cellular deposits, and such a house-cleaning is bound to improve, temporarily at least, the patient's general condition.

Now, how do we explain the cough, if the uvula is not the cause? There will be found upon close examination, that the posterior pharyngeal wall is glazed and shining; that the follicles are enlarged and the mucous membrane leathery; that each breath of air, instead of being balmy and moist and warm, is dry, and acts as a mechanical irritant. It strikes against the sensitive laryngeal tissues and the reflex cough ensues. The cause of the cough is due to the dryness—to the rough and rasping action of the current of air upon the laryngeal tissues. To this is added the constantly increasing irritation due to frequent coughing, and the cycle of events works on continuously.

Why is the air dry? *First*, Because we live in artificially heated air, which is dried before it reaches the air passages. *Second*, Because we live in houses so poorly ventilated that the air is not only dry but laden with impurities, which are enough to set up irritation all along the respiratory tract. *Third*, The tendency for sudden changes of temperature to bring about sudden changes in the blood-supply to the nose and throat till all the elasticity is gone out of the turbinates and the nasal passage is full of swollen and hypertrophied mucous membrane. Hence, there is a current of air drawn into the nose that receives no moisture because the nasal functions are abnormal. This current of air strikes against the post-nasal wall, draws its warmth and moisture from the mucous membrane there, and this ultimately leads to so great a demand upon an area of mucous membrane that has no such function that it also becomes unfit to perform this duty, and eventually the whole pharyngeal wall has

been inflamed and dried out in its overworked state.

Gradually the whole area down to the laryngeal space becomes dry, shining and devoid of normal functions. The reflex cough comes as the drying action of the air begins to creep into the larynx too, and the whole symptom complex presents itself. The practical aid that the physician can give is to increase the moisture in the nose and nasopharynx.

There is no need for peculiar or severe treatment. To begin, we must bring about an increasing amount of moisture in the nasal chambers by simple alkaline washes to clear away old secretions and to stimulate the activity that still exists. Then to this will be added the advantages that menthol offers in an oil solution. Spray with some alcoholic solution containing menthol $\frac{1}{2}\%$. It shrinks up the mucous membrane, wrings out the infiltrations, and gradually, when the hygienic conditions are ideal, the post-nasal space and the uvula return to normal.

Devote all the treatments to the throat and only temporary relief will result. The only gain will be the cleansing; and the local caustic applications, such as Lugol's Solution, will produce excessive secretions and so throw off the waste products from the tissues.

Some authorities claim that all these conditions are of arthritic diathesis, and that lack of elimination is at the root of it all. So, of course, the usual general eliminative treatment hastens the resulting good.

NOTES.

An interesting monograph in the shape of a book detailing some points in connection with cod liver oil and a general history of its advent into usefulness, has just been published by the Katharman Chemical Co., of St. Louis. Some seven and one-half pages are devoted exclusively to history and is free from advertisement. Those who wish it can obtain it on request from the above firm.

PROGRAM.

*Scientific Sessions of the Fifty-Fourth Annual Meeting of the
Kentucky State Medical Association which was Held at
the New Seelbach Hotel, Louisville, Tuesday,
Wednesday and Thursday, October 19,
20 and 21, 1909.*

PROGRAM

TUESDAY, OCTOBER 19, 1909.

MORNING SESSION—FIRST DAY, 9 O'CLOCK.

Call to OrderBy the President, John G. Cecil.
Opening Prayer
Address of welcome
Response
Installation of the President.
Report of the Chairman of the Committee on Arrangements
.....By L. S. McMurtry, Louisville.

SCIENTIFIC SESSION, 10 O'CLOCK.

"A Practical Talk on the Diagnosis of Mental Diseases,"
.....By E. M. Wiley, Lexington.
"The First Interview with Patient,"
.....By J. L. Atkinson, Campbellsville.

ABSTRACT: The practice of medicine a calling—the mission
of the Doctor—the confidential relationship of the medical ad-
viser to the patient—the necessity for such relationship and
methods to be employed.

"The Treatment of Mutilated Extremities,"

By R. C. McChord, Lebanon.

ABSTRACT: More systematic conservative surgery should be
practiced in treating mutilated extremities, and no primary am-
putation should be done, where there is circulation in the distal
extremity.

The organized blood-clot should be more often utilized, where
there is loss of the soft tissues.

"Delirium Tremens"By F. M. Stites, Hopkinsville.

ABSTRACT: A manifestation of chronic alcoholism. Pathol-
ogy as in chronic alcoholism, "Wet brain." Symptoms numis-
takable. Treatment: Withdraw alcohol, nourish, restrain intel-
ligently; heart stimulants and sedatives used moderately.

SPECIAL ORDER AT 12 M.

Address in Surgery, "A Plea for the Surgery of Our Small Hospitals"By J. L. Phythian, Newport.

TUESDAY, OCTOBER 19TH.

AFTERNOON SESSION—FIRST DAY.

"Tonsils and Adenoids"By S. G. Dabney, Louisville.

ABSTRACT: Recent stimulus to closer study of tonsil. Its anatomy and physiology, rather still uncertain but seemingly not very important. Two classes of abnormal tonsils (1) simple hypertrophied, symptoms of obstruction and reflex irritation; (2) diseased (hypertrophic or atrophic) causing local or general infection or both—relative to speech and to ear and eye. General or distant diseases believed to enter through the tonsils. Modern treatment: Tendency to radicalism; general treatment; indications for operation; is there a place for tonsillotomy? for the electric cautery? for local medicinal applications? Tonsilleectomy; its indications; local or general anaesthesia; technique, hemorrhage; dangers; after treatment.

Adenoids: Meyer's description almost complete to-day, except as to their being possible port of entry for general disease; certain amount normal in early childhood; symptoms in infancy; indications for treatment; anesthesia and operation.

"The Pupils During Health and Disease,"

By Adolph O. Pfingst, Louisville.

ABSTRACT: Believing that some uncertainty exists as to what should be considered a normal pupil or one indicative of general disease, the author after a brief review of the physiology of the iris and its nerve supply calls attention to the method of examining the pupils.

The fallacies which should be guarded against in the examination are mentioned, such as the age of patient; inequality of light entering the two pupils; difference in refraction in the two eyes or defective vision in one eye; the possible use of some drug influencing the size and local diseased conditions, such as synechia, causing immobility of the pupils.

From a diagnostic standpoint, the pupils are examined for their size, their reaction to direct light, their consensual reaction and for their reaction to accommodation and convergence.

Attention is called to the fact that pupils frequently do not react to light though perception of light is present and that on the other hand pupillary reaction may persist in eyes without

light perception. The pupil in which reaction to accommodation and convergence remains after reaction to light has ceased—(Argyl Robertson Phenomena), is spoken of and its insignificance is pointed out. Also the significance of mydriasis or myosis on one or both sides.

The disease especially mentioned in which the pupils are of value in diagnosis are tabes, progressive paralysis, hysteria, epilepsy and uremic eclampsia.

The condition of the pupils during anesthesia is also considered.

“Diagnosis of Acute and Chronic Mastoid Disease,”

By J. A. Stucky, Lexington.

ABSTRACT: Cure of acute purulent otitis media simply a question of drainage. Posterior drainage per antrum will cure any ordinary case in which the mastoid cells are not already involved, in short time with little scar or deformity. If we cure our acute cases, we have no chronic ones. It is the chronic cases that result in loss of hearing and life.

Because the general practitioner first sees the acute cases the responsibility of much of the deafness that follows rests upon him, unless prompt relief is given. Therefore, correct diagnosis and prompt surgical treatment is most important. What the appendix is to the abdomen, the mastoid cells are to the cranial cavity, the point of least resistance, and the easiest and safest to relieve when involved pathologically. Cases of Mastoiditis in which the drum membrane and middle ear cavity show little evidence of disease, and frequent anatomical irregularities give rise to misleading symptoms. Consideration of the objective and subjective symptoms. When in doubt, drain the antrum posteriorly.

“The Treatment of Acute Mastoid Disease,”

By Lamm S. Givens, Cynthiana.

ABSTRACT: The two most important points in the management of “Acute Mastoid Disease” that have not already been emphasized appear to be trans-illumination and examination of the pus for bone debris. Each of these have been written upon, but neither received the attention deserved.

Examination of the Mastoid by trans-illumination is based upon the fact which can be easily demonstrated; that the healthy normal Mastoid will transmit light, while a Mastoid filled with pus, or granulation tissue, obstructs the passage of light

In acute cases which hang on for a considerable time, and in the sub-acute, it is desirable to know, as far as possible, the extent of the pathological changes within the Mastoid. If the bony partitions between the Mastoid cells are broken down, bone debris will be found in the pus. When bone debris is found it is positive evidence that an operation should be performed.

Looking upon Mastoiditis as a preventable disease, however, prevention is the thing to be aimed at by those who have the opportunity to institute such measures.

“The Treatment of Chronic Mastoid Disease,”

By J. T. Reynolds, Mt. Sterling.

ABSTRACT: A plea to prevent the mallet and chisel from obliterating the sound of life.

“The Radical Treatment of Chronic Mastoid Disease,”

By W. N. Offut, Lexington.

ABSTRACT: The radical operation the only logical and scientific treatment for Chronic Mastoiditis.

Preparation of patient.

Technique of operation.

Method of closing wound by flaps from the fibro cartilaginous canal and blood clots.

After-treatment.

“Rest, Its Value, Indications and Technic,”

By Curran Pope, Louisville.

TUESDAY, OCTOBER 19TH.

EVENING SESSION—FIRST DAY.

President's Address I. A. Shirley, Winchester.

Annual Address: “The Present Status of the Surgical Cure of Cancer of the Digestive Tract” (Illustrated)

By Wm. J. Mayo, Rochester, Minn.

WEDNESDAY, OCTOBER 20TH.

MORNING SESSION—SECOND DAY.

"What More Can Our Profession Do to Decrease the Spread of Tuberculosis?"By Jacob Green, Owensboro.

SYMPOSIUM ON DRUGS.

"Iodides, Arsenic and Mercury," ..By G. J. Herman, Newport.

"Diuretics"By Starling P. Alderson, Russellville.

"The Coal-Tar Products; Which and Why,"

By W. R. Moss, Clinton.

ABSTRACT: The physiological action. Therapentics; which and why. Dangers. Use in fraudulent nostrums.

"Anesthetics"By E. N. Hall, Bowling Green.

"Morphine, Its Use and Abuse," ..By R. E. Griffin, Owensboro.

"Fat Embolism" (Illustrated by an experiment),

By W. H. MacCracken, Louisville.

SYMPOSIUM ON THE TOXEMIAS OF PREGNANCY.

"The Etiology and Pathology of the Various Toxemias of Pregnancy"By W. A. Jenkins, Louisville.

ABSTRACT: 1. *Introduction.* Giving a brief history of the subject, and outlining the ground to be covered by the paper.

2. *Classification.* Classifying under the head of the toxemias of pregnancy all toxic manifestations that occur during, and are induced by, the pregnant state, for example, pernicious vomiting of pregnancy, eclampsia, acute yellow atrophy of the liver occurring in pregnancy, the so-called toxic or tubal nephritis of pregnancy, etc. And, giving reasons for such a classification.

3. *Etiology.* Giving a detailed consideration of the possible factors which may become causative agents, namely: the placenta, autointoxication (contamination of the blood stream by effete material), the fetus, the amniotic fluid, disease of or deficient action on the part of the parathyroid bodies, bacteria, syncytial elements, etc.

4. *Pathology.* (a) That group of cases milder in character in which there is present every evidence of a systematic saturation due to the accumulation of certain retrograde products of metabolism not necessarily accompanied by gross organic changes. (b) The severer or fatal cases, with marked and extensive organic

changes primarily in the liver and kidneys; secondarily, in the spleen, brain and other organs.

“The Prevention and Treatment of the Toxemias of Pregnancy”

By Edward Speidel, Louisville.

ABSTRACT: Prophylaxis.

Recent developments make definite therapy possible.

Hyperemesis an early manifestation.

Treatment of the neurotic variety.

Treatment of the toxic form.

Indications for the interruption of the pregnancy.

Pre-eclamptic toxæmia, the late manifestation.

Treatment by elimination.

Treatment by venesection, or Veratrum Viride.

Treatment by induction of premature labor.

SPECIAL ORDER AT 12 M.

Address in Medicine, “Prophylaxis in Medicine,”

By C. G. Stephenson, Becknersville.

WEDNESDAY, OCTOBER 20TH.

AFTERNOON SESSION—SECOND DAY.

“The Diagnosis and Treatment of General Peritonitis,”

By John R. Wathen, Louisville.

ABSTRACT: General peritonitis is the involvement of the entire surface. Diffuse, a better term, and restricted to cases without adhesions and spreading. Remarks limited to acute perforative type of diffuse variety, a very fatal disease. Diagnosis not difficult in typical well-developed cases, but not so in early stages, as typhoid perforations. Frequency of perforations are the appendix, the ileum, the stomach and the duodenum, in the order named. Diagnosis from symptoms of sudden severe pain, nausea, vomiting, tenderness, abdominal rigidity, and lastly, collapse.

Treatment based upon better knowledge of the pathology and physiology of the peritoneum. Mortality reduced from 97 per cent. to 4 per cent. (Murphy). Principles of treatment: (a) Prevent absorption of infective material by Fowler's position; (b) open the abdomen to stop the leakage of perforation and to relieve tension; (c) lessen peristalsis by an empty stomach, (Ochsner); (d) provide abundant and free drainage; (e) use Murphy's protoclysis.

CONTINUED IN NEXT ISSUE.

Abstract of Some of the Principal Papers Read Before the
American Proctologic Society,
Eleventh Annual Meeting, Atlantic City, N. J., June 7 & 8, 1909.

**“MODIFIED TECHNIC IN RESECTION OF THE
RECTUM.”**

BY J. RAWSON PENNINGTON, M.D., CHICAGO, ILLINOIS.

Numerous illustrations were shown by the author, intended to serve as demonstrations designed and employed by himself and Dr. Grommernd, in resection of the rectum in a special case. The growth for which the method was employed extended upward from the upward border of the levator ani muscle for about two and one-half inches.

Aperineoraphy was first done, splitting the recto-vaginal septum back to Douglas Cul de sac. The rectum was then dissected from its lateral and posterior connections upward until it could be pulled downward far enough to effect an end-to-end anastomosis, when the section, including the growth was removed.

The incision was closed with buried catgut-sutures, and silkworm-gut, for the skin. The posterior vaginal flap covering up, as it did, the operating field, prevents the urine, vaginal and uterine secretions, from coming in contact with the wound.

**“ABDOMINAL MASSAGE IN THE TREATMENT
OF CHRONIC CONSTIPATION, ETC.”**

BY T. L. HAZZARD, M.D., B.S., PITTSBURGH.

The writer referred to the fact that general massage had been practiced from very ancient times until the present, for the relief of fatigue and for the purpose of increasing the flow of fluids in the blood-vessels, the lymph spaces and juice canals, by which more perfect elimination of waste is obtained and better assimilation brought about. Two conditions which, in his opinion the relief of will do away with two-thirds of the slight ailments as well as of some of the more serious ones. He began massage for the relief of chronic constipation and was much surprised to find the far reaching, adventitious effects produced. Among others, for example, that the chalky deposit in the joints in articular rheumatism.

under careful, patient, persistent manual therapeutics as applied to the bowels, will entirely disappear more often than not.

Mentioned no particular method, saying that any good text-book would give the technic sufficiently well. This manipulation is recommended not only for chronic constipation, but also for the relief of coprostasis for which operation it is very frequently done.

After indicating more of the benefits and some of the dangers of the method, the writer said that if this treatment called for more time than the physician or surgeon could spare, it had better be left off altogether, although the patient would surely lose a very great benefit. The paper closed with the remark that doubters as to the very great advantages which will accrue to the sick, in many, many ailments, has but to practice careful and intelligent massage to be convinced.

"PERIRECTAL ABSCESS."

BY J. A. MACMILLAN, M.D., DETROIT, MICHIGAN.

Who called attention to the fact that in a large proportion of cases of perirectal abscesses, the bacillus is present, and that next in importance, as an etiologic factor, is the genococcus. A diagnosis is most difficult when the abscess is located above the levator ani. In this location it is frequently found to be complicated with some disease of one or more of the pelvic organs. In this condition it is sometimes necessary to make an abdominal incision both for exploratory purposes and to rectify the condition. In the treatment of the perirectal abscess, however, the drainage should always be from below.

"DISEASE OF THE COLON DUE TO EXTRA-INTESTINAL CAUSES, WITH SPECIAL REFERENCE TO MEMBRANOUS COLITIS: ILLUSTRATIVE CASES."

BY A. B. COOKE, M.D., NASHVILLE, TENN.

The intimate functional relations existing between the several viscera of digestion, which is recognized by all, was pointed out, but the writer stated that the anatomic relations of the alimentary tube and the frequency with which they are to be looked to for the expla-

nation of many of its pathologic conditions, have not received the serious consideration their importance demands. He also called special attention to certain familiar diseases of the colon, which are often found to exist primarily because of these relations, and the mechanical irritation growing out of them.

Perhaps, the most conspicuous of which, was cited *membranous colitis*. The writer recalled the great divergence of opinion that has always prevailed as to the true nature and pathology of this malady, and notwithstanding the conclusions of such authorities as Osler, Tyson, Hemmeter and others, that the disease is a secretion neurosis; he takes the contrary view held by many other equally careful and competent clinicians, who hold that there are always pathological lesions that bear directly upon the colon, either from without, as by pressure from other misplaced organs, or by adhesions, or by some local irritant from within to account for these cases.

For present purposes the term membranous colitis is limited to that peculiar affection, which is characterized by the periodic discharge of mucus with membranes or casts from the bowel, and of which fecal stasis is always a prominent feature. With reference to this type of colitis, Dr. Cooke stated unequivocally that he had never seen a case in which he failed to find some gross pathologic condition of one, or more abdominal organs as well as of the mucosa itself; and furthermore that the etiologic relation between the two has been clearly established in a number of cases by the prompt and permanent disappearance of the bowel trouble upon correction of the extra-intestinal condition, after all other methods of treatment had failed. From this experience he had been led to conclude that the primary causes of this particular variety of colitis belongs in the main, if not exclusively, to a special class, viz: those which act mechanically. Most noteworthy in the list of such cases are enter-optosis, right movable kidney, peritoneal adhesions and extra-intestinal growths which occasion continuous pressure upon some portion of the colon.

He then discussed each of these causes in detail and supported his argument by the enumeration of well-illustrated cases.

Recent Progress in Medical Science.

THE TREATMENT OF NOCTURNAL ENURESIS WITH THYROID EXTRACT.

Many causes have been assigned for the wetting of the bed at night by young and older children, but they have not led to any uniformly successful plan of treatment. In some instances, no doubt, the disorder may be traced to defective training, with the development of a vicious habit, but in many both provocative factor and remedial measure alike elude discovery. That the phenomenon may be due to some abnormality of internal secretion would appear to be shown by the interesting and instructive experience of Dr. Leonard Williams, *Lancet*, May 1, 1909, p. 1245., who records a series of 25 cases in which relief was afforded by the administration of small doses of thyroid extract. The suggestion was obtained from the case of a boy with nocturnal enuresis who instead of improving on removal of adenoids and tonsils became worse. Reasoning that the operation had deprived the child of a corrective internal secretion, Williams was led, on account of the intimate relations between the thyroid gland and the lymph glands, to try the therapeutic effect of thyroid extract. To use Dr. Williams's own words, "the effect was most dramatic." The enuresis ceased immediately and never recurred. Observations of a similar character had been previously made by a Belgian writer, Dr. Hertoghe, of Antwerp. It is important that the dose of thyroid extract employed be small—from $\frac{1}{2}$ grain to $2\frac{1}{2}$ grains thrice daily—as larger doses may defeat the purpose of the treatment, as was illustrated in one case in which enuresis previously absent developed in a boy to whom $2\frac{1}{2}$ grains of thyroid extract were administered thrice daily for the correction of general debility following an attack of nephritis. The initial dose should be small, and it should be increased only if necessary, but no more should be administered than the minimum sufficient to effect the desired result. From the foregoing experiences it is argued that the thyroid secretion is a regulator of the action of the bladder and its sphincter, an excess being almost if not quite as deleterious as a deficiency.

TREATMENT OF PELLAGRA.

Much interest has been aroused during the last two or three years in the subject of pellagra. A study of the disease in the United States has thus far shown that it is widely distributed throughout the south, and is present in some localities in the north and middle west. The question of prognosis and treatment is naturally, therefore, one of much interest. Dr. C. H. Lavinier,* of the U. S. Public Health and Marine-Hospital Service, who for more than a year has been devoting his time to a study of the disease, in a recent article, has given a brief review of the subject.

He states that the prognosis must invariably be considered as grave, and that complete recovery can seldom be assured. Reliable statistics on the subject in the United States are practically limited to asylum cases, and give a mortality of 67 per cent. It must be borne in mind, however, that asylum cases are undoubtedly the more advanced and hopeless ones, and for that reason will give a mortality much above the average. Lombroso gives statistics of hospital cases in Italy in 1883 and 1884, showing a mortality of 13 per cent., whereas Wollenberg gives Italian statistics for 1905 showing a mortality of a little over 4 per cent. The disease resembles tuberculosis, both in that it is an insidious and chronic condition, and that much depends on early diagnosis and treatment, prognosis in early cases being far better than in advanced ones. The importance of this is apparent when it is considered that the disease is an intoxication, and that it is probably associated with diseased corn products used as food.

Predisposition is believed to be an important factor in this disease. Lowered physical resistance, worry, insufficient food, bad housing and alcoholism are supposed to render an individual more susceptible. In Italy, laws have been passed regulating the use and storing of corn and its derivatives, institutions have been established for the care and treatment of pellagrins, improved agricultural methods are encouraged, and assistance is given to the sick in many ways by the government.

In the treatment of patients, Lombroso recommends a liberal diet; in some cases he uses baths and cold douches, believing them to be of benefit in certain cases with nerve and skin manifestations; he has found arsenic a valuable remedy, and sodium chlorid of service.

Good results have been reported from the use of arsenical preparations, and transfusion of blood from cured individuals

to the sick has been tried with apparent success.—*Journal A. M.*
1.

NOTES ON PELLAGRA AND PELLAGRINS.

James H. Randolph, M. D. (Archives of Internal Medicine, Jan. 15, 1909), described the disease in an illustrated article and reports five cases of pellagra. He defines pellagra as a systemic intoxication, associated always with the ingestion of maize or maize products and characterized by a triad of symptoms (gastro-intestinal, cutaneous and neuro-psychic) with marked tendency to seasonal recurrences, exhaustion and death. The word pellagrin applies to those affected with the disease; particularly when mental symptoms predominate.

This disease was first noted in Spain in 1735, in Italy in 1750, in 1833 in Roumania, in 1893 in Egypt, and since in Asia, South America and Mexico, and in 1907 appeared in the United States as an epidemic in Alabama.

A review of the literature would support the statements of the German and Italian authors that the disease is an intoxication due to chemical substances produced in the grain by parasitic micro-organisms together in the intestinal tract of man. Additional causative factors may be the actinic rays of the sun, the relation of the disease to the warm seasons and its occurrence in agricultural classes especially. The pathology is marked by congestion, pigmentation, thickening and ultimately atrophy of the upper layers of the skin, by the absence of adipose tissue and fragility of bone and by changes in the cerebro-spinal system suggestive of toxic origin.

The symptoms are divided into cutaneous, gastro-intestinal and nervous and mental. In the skin there is at first a red discoloration turning quickly brown and seen in patches symmetrical in distribution about the hands, dorsum of the feet, face and sometimes on the back of the neck. There are no subjective sensations except "feeling fullness." Preceding or coincident with the skin trouble there is diarrhoea usually serious, gastric pain and loss of weight. Stomatitis, salivation and fetid breath are often present. Nervous and mental symptoms are seen throughout the disease and consist of headache, malaise, with perhaps vertigo, irritability, insomnia, refusal of food, suicide tendency, defects of memory, impaired intellect, also paresthesias and anes-

thesias, and sensation of cold of hands and feet. In one case melancholic symptoms, hallucinations and delirium were seen.

Distinctive diagnosis has to be made from alcoholic intoxication hookworm disease, Addison's disease, pemphigus, dermatitis venenata, leprosy, ergotism and various mental diseases. Prognosis is not encouraging and death usually occurs in a few weeks to a few months. Those who live frequently have recurrences and mental deterioration persists. Alcoholic abidiction increases the gravity of the prognosis. The treatment is mainly prophylactic and consists in removal from unhygienic surroundings and improvement of diet. No specific for the disease is known, milk externally and internally, arsenic and iron, iodine for the skin and protargol for the intestinal disturbance have been recommended.—*Old Dominion Journal of Medicine and Surgery*.

INSTITUTION OF PHYSICAL THERAPEUTICS.

We have in the past commented on the need of a properly equipped institution for physical therapeutics in this city. This need for the past few years has been met in great measure by the "Medical Baths," which have been conducted wholly in the interests of the laity under the immediate direction of the medical profession. During the relatively short period that these baths have been in operation they have established themselves as a valuable aid in the therapeutics of the most diverse conditions. Many patients have been treated, sent by a large number of physicians, with gratifying results. To meet the increasing demand certain alterations and extensions of the facilities have been made within the past two years, which have added still more to the effectiveness of the treatment given.

This enterprise, begun in a wholly disinterested spirit by certain physicians, who felt the necessity for a properly equipped and medically directed hydrotherapeutic establishment in this city, has certainly justified its existence, but at the same time has entailed a certain financial burden which should be met. The natural and effective way to meet the expenses is for physicians to take a still wider interest in this important branch of physical therapeutics and to recognize in it a worthy subject for study and an effective means of combating many local and constitutional difficulties with which they are continually confronted in their practice. The medical profession at large should certainly recognize the unselfish part which the original promoters of the "Medical Baths" have taken in placing the institution on an

active and efficient working basis. It is not too much to ask, now that the enterprise has been successfully started and has amply proved its usefulness, that the profession do something toward its support and toward meeting the obligations already incurred.

As a means to this end, and in order that the institution may be put on a permanent financial basis, the "Medical Baths" have recently been incorporated under the laws of Massachusetts as a stock company. Through this action stock in the newly formed company is available and may be had by application to Dr. J. H. Pratt, clerk of the corporation, hereafter to be known as the Institution for Physical Therapeutics. As we have repeatedly stated in these columns, one evident direction which the therapeutics of the future is to take is a renewed and more carefully studied attention to physical agencies. The incorporation of the "Medical Baths" is a forward step in the recognition of this tendency and should be supported generously by the medical profession, not only in this city, but in the surrounding towns, from which patients may come for treatment.—*Boston Medical and Surgical Journal*.

THE TREATMENT OF MECHANICAL OBSTRUCTIONS TO DELIVERY.

No subject connected with obstetrics has been discussed more effectively of late than the intra-pelvic versus the abdominal method of dealing with mechanical obstructions to delivery in cases of confinement.

In the choice between the intra-pelvic and abdominal methods of delivery in the lesser degrees of mechanical obstruction, the relative maternal and fetal mortalities to be expected of the different methods should be considered. Before deciding upon any operative procedure, it is to be borne in mind that although spontaneous delivery of a fully developed child cannot occur when the conjugata vera measures 7 centimetres or less, above this limit it will take place in a large percentage of cases.

As far back as 1901, Williams reported 278 cases of contracted pelvis in which nearly 78 per cent. ended in spontaneous labor, while in 972 contracted pelves occurring out of a total of 10,000 cases at the Sloane Maternity, 66.3 per cent. ended without interference. Edgar reports 70.59 per cent. as terminating normally.

The moulding of the foetal head during labor must always be

considered, and although pelvic measurements are a necessity for routine examinations of patients, the external measurements are not always to be relied on; not infrequently they will be normal and yet the internal examination will reveal a marked contraction of the pelvis.

Frequent and careful examinations of the patient in suspected cases will usually prevent difficult obstetric operations, and it is important to determine as accurately as possible the size of the fetal head and its relations to the pelvis.

The methods at our disposal for ascertaining this are not always satisfactory, so that Perret has devised a special instrument for measuring the occipito-frontal diameter through the abdominal wall, and he estimates the bi-parietal diameter as two centimeters less than that measurement. But for a final test most reliance is to be placed on Muller's supra-pubic pressure. An anesthetic will in some cases be necessary to accomplish the examination properly.

Many American physicians have followed the French and German teachings in condemning the induction of premature labor in cases of contracted pelvis, on account of the high fetal mortality. So far as the major degrees of pelvis deformity are concerned it is generally agreed that induction of premature delivery should not be resorted to on account of the high fetal mortality. In the lesser degrees of contraction it is probable that Norris and Hirst are right when they state that the skillful induction of labor during the last weeks of pregnancy should always be carefully considered. Many patients are often lost through errors in obstetric delivery, who might have been saved by this operation.

Hirst reports several hundred cases of induced labor, and states that a conjugata vera of about eight centimeters may result in a safe and easy delivery during the last month of gestation, which at term would require Cesarean section or pubiotomy. The mortality of premature infants is probably no greater than that of infants born at term in uncomplicated labors.

Little need be said regarding version or the application of the forceps, as no recent advancement has been made along these lines, other than that they are valuable obstetric procedures.

It would appear that the tendency at present is to more frequently resort to the forceps than to version and a better knowledge of the mechanism of labor and newer and more perfect axis traction forceps have made the interferences with this instrument the preferred ones with most physicians.

When the conditions are such that extraction is possible without hard pulling, the intra-pelvic operations under modern conditions, and in skilled hands, are fairly free from danger.

The elective Cæsarean operation at the beginning of labor, when properly performed, has at present no greater maternal mortality than the intra-pelvic operations at the time of their election.—*Charlotte Medical Journal*.

Therapeutic Suggestions.

WARTS.—

Salicylic acid,gr. xxx

Acetic acidoz. j

M. Sig. Apply with a camel's hair brush.—*Louisville Medical Monthly*.

ACUTE OTITIS.—Solt's formula is:

Ichthyol15 grains

Glycerine2 drachms.

Aq. dest.

M. Sig.—Instil several drops thrice daily into the ear.—*Le Progres Medical*.

FOR ACUTE OR SUBACUTE CYSTITIS.—

Ext. buchu floz. i

Potassi citratisdr. iii

Spt. etheris nitrosioz. ss

Syr. limonis, q. s. ad.....oz. iii

M. Sig.—Teaspoonful in water every three hours.—*Medical News*.

A VAGINAL ANTISEPTIC AND ASTRINGENT.—The Journal de Paris attributes the following formula to Lutaud:

Alum900 grains

Boric acid900 grains

Carbolic acid20 drops

Oil of wintergreen20 drops

M. A teaspoonful to be dissolved in a pint of hot water for a vaginal injection.

SORE OR CRACKED NIPPLES.—

Castor ol.,

Subnitrate of bismuthaa dr. j

This is applied freely to the sore nipple.—*Hirst, Med. Rec.*

BRUISES.—

Tinct. opii
 Liquoris plumbi subacetatis,aa fl. oz. j
 Aq. distillatae, q. s. adfl. oz. xvj

M. Sig. Apply freely on old soft rags or lint. Must not be employed if the skin is broken. If skin is broken, part must be dressed antiseptically and hot or cold applications made.

Potass. chlorat.dr. ss
 Tinct. iodi.
 Aq.,aa. fl. oz. cc

M. Sig. Apply locally.—*Breninger, Dom. Med. Mon.*

PNEUMONIA.—In order to promote renal elimination, Dr. F. M. Hill, of Persia, Iowa, says, in the *Med. World* that his favorite combination is:

Fl. ext. hydrangea
 Spir. atheris nitrosiaa oz. iv
 Acidi salicylic.dr. ss
 Fl. ext. gelsemiumdr. ij
 Ess. gaultheriam xx
 Syr. simplicisq. s. ad oz. xij

M. Sig. Adult dose, teaspoonful every four to six hours.—*The Med. World.*

CORRESPONDENCE.

The President of the American Gynecological Society has appointed a Committee to report at the next annual meeting in Washington, on the Present Status of Obstetrical Teaching in Europe and America, and to recommend improvements in the scope and character of the teaching of Obstetrics in America.

The Committee consists of the Professors of Obstetrics in Columbia University, University of Pennsylvania, Harvard, Jefferson Medical College, Johns Hopkins University, Cornell University and the University of Chicago.

Communications from anyone interested in the subject will be gladly received by the Chairman of the Committee, Dr. B. C. Hirst, 1821 Spruce St., Philadelphia, Pa.

BOOKS AND PAMPHLETS RECEIVED.

- "A Practical Treatise on Diseases of the Skin." By James Nevins Hyde, A.M., M.D., Prof. of Dermatology in Rush Medical College, Chicago; Professional Lecturer on Diseases of the Skin, University of Chicago. Eighth and Revised Edition. Illustrated with 223 engravings and 58 plates in colors and monochrome. Lea & Febriger, Philadelphia, Pa.
- "Nervous Diseases." Organic and Functional. M. Allen Starr, M.D., Prof. of Neurology, College of Physicians and Surgeons; the Medical Dept. of Columbia University in the City of New York. Third Edition. Illustrated with 300 engravings in the text and 29 plates in colors and monochromes. 1909. Lea & Febriger, Philadelphia, Pa.
- "The Renewal of Life." Thos. Bassett Keyes, Chicago, Ill. The Tubercle Press Bureau, Chicago, Ill. 1909.
- "Two Atypical Cases of Sinus Thrombosis." S. J. Kopetsky, M.D., New York City.
- "The Indications for the Radical Mastoid Operation, Based upon Pathologic Reasons." S. J. Kopetsky, M.D.
- "Tonsil Removal, Opsonic Index, and Immunity." Bryan B. Sheedy, M.D., New York.
- "Arthritis Deformans." Samuel E. Earb, M.S., M.D., Indianapolis, Ind.
- "Diagnosis of Pleurisy with Effusion." Samuel E. Earp, M.S., M.D., Indianapolis, Ind.
- "Pennsylvania Health Bulletin." Samuel G. Dixon, M.D., LL.D., Commissioner. Published monthly by the State Department of Health. Note on the similarity of Barium Carbonate Poisoning and Rabies in Dogs.
- "Influence of the Eye on the Ear under Normal and Pathological Conditions." Dr. Marcel Rollet, of Blois. Translated by by F. Park Lewis, M.D., Buffalo, N.Y.
- "Three Unique Head Tumors." Wm. Seaman, Bainbridge, M.D., New York.
- "The Enzyme Treatment for Cancer—Final Report." Wm. Seaman Bainbridge, M.D., Buffalo, N. Y.
- "Report of the Committee on Ophthalmia Neonatorum." Presented to the House of Delegates of the A. M. A. at the 60th Annual Session at Atlantic City, N. J., June 7-11, 1909.
- "Newer Conceptions of Cardiac Arrhythmias and Their Treatment." Thos. E. Satterthwaite, M.D., New York.

"Studies upon Leprosy." (IV.) Upon the utility of the examination of the nose and the nasal secretion for the detection of incipient cases of leprosy, by Walter R. Brinckerhoff, S.B., M.D., Director Leprosy Investigation Station, Public Health and Marine Hospital Service, and W. L. Moore, M.D., Honolulu.

"A Working Plan for Colored Anti-Tuberculosis Leagues." by C. P. Wertenbaker, Government Printing Office.

"Plague among Ground Squirrels in Contra Costa County, California." By W. C. Rucker, Government Printing Office, Washington, 1909.

"Notes on the Prognosis and Treatment of Pellagra." By C. H. Lavinder. Government Printing Office. Washington, 1909.

HIGH FREQUENCY CURRENTS. By Frederick Finch Strong, M.D., Instructor in Electro-Therapies at Tufts College Medical School, Boston. With 183 illustrations, 282 pages. Price, cloth-bound, \$3.00. Published by Rebman Company, 1123 Broadway, New York City.

Electricity now has a permanent place in the doctor's office and that extent of its utility is a source of deep study and food for thought by the man using the healing arts. High frequency currents are extremely useful to neurologists and general men dealing with neuropathic conditions. The above volume contains much that is wholesome for all doctors owning induction apparatus. This book seems a leader in its class, the author's reputation showing strongly in the usefulness of the text.

INTERNATIONAL CLINICS. A quarterly of illustrated Clinical Lectures and especially prepared Original Articles by leading members of the Profession throughout the world. Edited by W. T. Towercope, M.D. Philadelphia, U. S. A.

Vol. I, Nineteenth Series, 1909, contains several colored plates, and other excellent illustrations, and seventeen original articles thoroughly alive to the present status of our current diseases and maladies. Its Progress of Medicine contains much valuable topic in abstract along line of nature of modern medicine and treatment.

Vol. II. same series contains twenty original articles, 4 colored plates, and numerous plates and figures thoroughly illustrative of the text. The eye, ear and rectum are considered in this volume.

Vol. III, same series, 1909, contains twenty-three original articles, 3 colored plates and fourteen other illustrations.

International clinics this year show the improvement that is always necessary for the current times. It has always been a plain speaker, leaving out the extravagances of theories of medicine or treatment. The reviewer is particularly struck by the articles on Treatment of Tuberculosis, Hay Fever and Hyperesthetic Rhinitis, Graves' Disease, Neurology and Interstitial Keratitis.

This work of four volumes a year is an excellent year book to keep on your library shelves, for it will come very near covering the progressive ground in Medicine for the time of issue.

TUBERCULOSIS, A PREVENTABLE AND CURABLE DISEASE. Modern methods for the solution of the Tuberculosis Problem, by S. Adolphus Knopf, M. D., Prof. of Phthisis-therapy at the New York Post-Graduate Medical School and Hospital; Associate Director of the Clinic for Pulmonary Diseases of the Health Department; Attending Physician to the Riverside Sanatorium for Consumptives of the City of New York. New York. Moffat, Yard & Co., 1909.

This book is intended to be helpful to the tuberculous patient and not to replace the physician, but on the contrary, to aid the latter in instructing the former to a greater extent concerning the disease of which he is suffering. This volume contains much of valuable matter, for it explains how to be clean and sanitarily guarded, lest the patient's associates take on the infection. Spit-cups, sleeping compartments, sanatoria, clothes, are all discussed, as well as the duties of employers of workmen and women, doctors, health boards, ministers, etc., in their watchfulness over the disease. In fact, the book is replete with invaluable suggestions and well worth the price (\$2.00) to any consumptive. The book contains 382 pages and 115 illustrations; the print, paper and binding are excellent.

CLINICAL TREATISES ON THE SYMPTOMOLOGY AND DIAGNOSIS OF DISORDERS OF RESPIRATION AND CIRCULATION. By Prof. Edmund von Nessler, M.D., Vienna. Authorized English translation by Andrew MacFarlane, M.D., Prof. of Medical Jurisprudence and Physical Diagnosis, Albany Medical College; Attending Physician to St. Peter's and Child's Hospital, and Albany Hospital for Incurables. Part III, Angina Pectoris. E. B. Treat & Co., Publishers, New York, 1909.

This volume is a very able presentation of the subject. The revision and translation has not disturbed the original treatise as prepared by Prof. Nessler.

In dealing with this subject of which there is still much doubt the author has reviewed the field very thoroughly.

The various theories setting forth in an explanatory manner the etiology of this condition are interestingly discussed; while the chapter on differential diagnosis is experientially valuable. The book is well printed, and very instructive.

MINOR AND OPERATIVE SURGERY, INCLUDING BANDAGING. By Henry R. Wharton, M.D., Professor of Clinical Surgery in the Woman's Medical College, Philadelphia. New (seventh) edition, enlarged and thoroughly revised. 12mo, 674 pages, with 555 illustrations. Cloth, \$3.00, net. Lea & Febiger, Philadelphia & New York, 1909.

The new seventh edition has been carefully revised. Several new illustrations have been added. The text has likewise been expanded, including descriptions of some of the more recent minor surgical procedures.

As a text book for the student as well as the busy surgeon, who wants a reference book without unnecessary reading, we know of nothing better in its line. It is not voluminous in material nor is it elaborate in text, but concise and very lucid. That part of the book devoted to bandaging, with its well defined illustrations and descriptions, is one of its best features. The book is worthy of strong endorsement and favor.

MEDICAL JURISPRUDENCE, FORENSIC MEDICINE AND TOXICOLOGY.

Edited by R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics, and Toxicology in Cornell University; and Tracy C. Pecker, A.B., LL.B., Counsellor at Law, Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. Second edition. Volume Three. New York, William Wood & Company. 1906.

Surgeons and general practitioners alike, in fact, all students of medicine, feel at times the necessity of a work of this character. As time passes by there is a more insistent demand that the practitioner must know his legal relationship to his patients.

His reputation and its future may frequently rest on such knowledge. The work has been prepared by numerous experts of acknowledged ability under the supervision and editorship of an eminent physician and attorney.

Volume Three maintains the standard as set by the preceding volumes. It views in a most careful and thorough manner the following topics:

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“Mental Unsoundness in Its Legal Relations.” By Tracey C. Becker, A.B., LL.D.

“Care and Custody of Incompetent Persons and Their Estates.” By Hon. Goodwin Brown.

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“Examination of Blood and Other Stains.” By James Ewing, A.M., M.D.

“Examination of Hairs.” By James Ewing, A.M., M.D.; as will be seen, by men of recognized authority.

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TWO INTERESTING CASES.

Dr. Geo. Selkirk Jones, Ph. D., L. S. A., in an original article, first printed in *Medical Reprints*, London, says: "I am desirous of placing upon record the two following clinical cases, which have come within the sphere of my professional occupation. The first was that of a lady, the subject of a periodically recurring hemierania of a decidedly neurotic type, upon whom the usual remedies had (*ad nauseam*) been tried, with occasional benefit alternated with disappointment. This led me to persevere with Antikamnia tablets, one every two hours for eight doses. This case having secured for me a meed of confidence, I have labelled it, mentally, as my first success with this preparation.

The second one is that of a man aged forty-five, the subject of asthma of a pulmonary type and associated with gastric troubles, for whom I was in the habit of prescribing alkalies. In this case I am now observing the gradually increasing evidences of the benefit of Antikamnia & Codeine tablets, which, up to the time of writing, have not failed or fluctuated in their analgesic and stimulating action upon my patient's asthmatic condition.

AFTERWARDS.

During the acute stages of any serious illness, such as Typhoid, Pneumonia, La Grippe, etc., the attention of the physician is, of course, centered upon the ways and means of conducting the patient through the stress and storm of the disease, into the peaceful harbor of convalescence. In many instances, when this point is reached, the physician is inclined to relax his efforts and, perhaps, fails to appreciate the extent of the general devitalization that has followed the severe systemic infection from which the patient has just recovered. Unless the reparative and restorative forces of Nature are fortified and stimulated, a slow and tardy convalescence is apt to supervene. The devitalizing influence of the infectious diseases is exerted principally upon the blood itself, the vital tissue of the organism, and an easily tolerable, readily absorbable and promptly efficient hematinic is therefore always in order. Pepto-Mangan (Gude) is peculiarly adapted to the needs of the convalescent invalid, because, being palatable and non-irritant, it does not impair the appetite or disturb the digestion. Its freedom from constipating effect is another distinct point in its favor.



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SAMUEL BROWN HAYS, M. D.,

Editor

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Announcement For 1910.

THE AMERICAN PRACTITIONER AND NEWS starts its forty-fourth volume January 1, 1910, with the announcement that it is very fortunate to secure some valuable contributions from the pens of the following physicians and specialists:

Wm. H. Wathen.
M. F. Coomes.
Philip F. Barbour.
Ellis S. Allen.
Granville Hanes.
Edw. T. Bruce.
Byron Robinson.
Jno. W. Heim.
Lee Kahn.
W. T. Blackford.
Wm. C. White.

Thos. Hunt Stucky.
Chas. G. Lucas.
Edward Speidel.
Curran Pope.
F. W. Samuel.
Bernard Asman.
Aime Paul Heinick.
H. J. Farbach.
B. F. Zimmerman.
Harris Kelly.
Walter F. Boggess.

In our January Number, 1910, we will announce the titles of most of our articles for the year, and will also add more names of contributors, from whom we have not as yet heard. This will make our 1910 volume a splendid year-book in fact.

Original Communications.

REMOVAL OF THE TONSILS BY BLUNT DISSECTIONS, OR TONSILLECTOMY.

By WM. C. WHITE, M.D., LOUISVILLE, KY.

The complete removal of all tonsillar tissue en-masse, is to my mind the ideal operation, and the more recent operation is nearly perfect. I do not deny that a great many tonsils can be removed by the tonsillotome, and I do believe some cases can be helped by this method, especially those large pedunculated glands whose interference with the patient's comfort and health is by their mechanical obstruction only. But in the submerged variety of the tonsils with adhesions to both pillars, results of repeated inflammations, only the modern operation of tonsillectomy will suffice. I also might add that the infective tonsils belong entirely to this method of removing them.

Without going into the anatomy of these glands, I might call the reader's attention to the surrounding membrane or capsule, that practically holds the tonsil in the bed. This capsule is composed of fibrous connective tissue and readily adheres to the surrounding structures, the result of any inflammation in the tonsil proper.

Now this operation consists in separating this capsule or surrounding membrane from the faucial pillars and removing same with the gland.

This necessitates in those patients under 14 years of age and in some nervous adults, a general anesthetic. Patients should be sent to the infirmary the night before the operation and prepared as for any major operation. About a half hour before the time set for the operation, the patient should be given a hypodermic of about one three-hundredth atropine sulph., and one-eighth grain of morphine sulph., or more, according to the age of the patient. This will help to control the mucus in the throat, of which these patients have a great deal.

Just at this point, I might say that I do not know of any operation in which so much depends on the anesthetist. When one considers the small space in which we are

operating which is so richly supplied with blood vessels, also keeping out of the way of the anesthetist, and yet allowing him sufficient time to keep the patient thoroughly under the anesthetic, one can readily see that they must work in perfect harmony to be successful.

The patient is placed in the Pierce position, which is on the right side with the arm and leg flexed under the body and a sand pillow under the neck. This throws the field of operation lower than the trachea and relieves the chance of the patient aspirating blood or mucus. The operator is seated on a low stool just in front of the patient's face, and the light is thrown on the field of operation by a head mirror used by the operator. Any suitable gag will do, Whitehead, O'Dwyer's, or any one the operator is in the habit of using. I use a simple gag, the Murdock. After the gag is inserted, a short, narrow tongue depressor is introduced and the tonsil brought into view. It is absolutely essential that the tongue depressor shall be made for this purpose, as the ordinary ones on the market are too long, and when pressure is made on them, will close the epiglottis, and shut off the patient's breathing.

The tonsil is then seized with any suitable vulsellum forceps and traction made outward. This places the capsule on a stretch and the line between the tonsil and the pillar is plainly seen. The tongue depressor at this point is given to an assistant and a blunt pointed dissector very similar to the Allison dissector, is introduced at the upper part of the gland and the capsule is freed from the pillars and supratonsillar space. This dissector is carried all around the tonsil until the gland is only held in position by a pedicle at the base. At this point you introduce your wire snare over your vulsellum forceps and push it well down around the base, being careful not to include the uvula within your wire loop. When the wire is in position and the operator holds same there, the assistant tightens the loop by a screw wheel until it cuts through. This wheel is tightened slowly and relieves us of much danger of hemorrhage. The bed is then examined for any bleeding points which, if the operator has followed the capsule, will be very few. The bleeding, in my experience, coming

principally from tonsilla tissue left between the pillars. The anaesthetist is given a few minutes to again get the patient thoroughly under the anaesthetic and the second tonsil is removed the same as the first.

It is absolutely necessary that the patient be not rushed from the operating room until the operator is thoroughly satisfied that practically all bleeding has ceased, and I invariably keep my patients under the anaesthetic until I am so satisfied. Allow me to report two cases that had been operated on previously with a recurrence of the old trouble. J. O., age twelve, white. Family history, negative. Child was operated on 8 months previous by the use of the tonsillotome, and a large part of the gland removed at that time. When I saw the child the anterior posterior chain of glands were very large with slight protrusion from between the pillars. I advised operation by blunt dissection, and same was done at an infirmary under a general anaesthetic. When tonsil was grasped and traction made on it, a mass as large as your thumb came into view. By blunt dissection I reached the base where I encountered about a dram of foul smelling pus, same on the other side. The child made an uneventful recovery, and the anterior posterior glands of the neck have all disappeared.

R. H., age 12, white, school girl, healthy and robust looking child, very bright and quick. Mother brought her to me to inquire about an object about the size of a cherry on the stump of the left tonsil. Tonsils had been removed seven months before with the tonsillotome, by one of the most expert and thorough laryngologists in the city. I advised complete removal as did the family physician. The patient was anaesthetised and a blunt dissection down to the base where as in the other case, a cheesy foul smelling pus was found leading from the cherry-like growth. When this pus was allowed to escape the growth disappeared, showing the connection between the base of the tonsil and this growth. Now this case was one that evidently was thought to be suited for the tonsillotome, as I have great faith in the former operator's judgment.

N. E. Cor. Second and Chestnut.

DIAGNOSTIC VALUE OF THE URINE.

BY ELLIS SAUNDERS ALLEN, M. D., LOUISVILLE, KY.

The urine, so often referred to as the secretion of the kidneys, is the retrograde product of tissue metabolism finding its avenue of escape through the kidneys. Not one single product found in the urine is manufactured by the kidney. The watery element of the blood is filtered through by mechanical pressure, possibly carrying with it certain salts, while the epithelia of the kidney extracts from the blood, by special metabolic function certain chemical products, that are no longer of any physiological assistance in the chemistry of the economy and is regarded as effete material. The cells do not remetabolize a single substance, but extract the substance as it is found in the blood that is brought to the kidney. Every product found in the urine when it passes into the pelvis of the kidney, or when in fresh urine existed as such in the blood and is found unaltered in the urine until acted on by some external or contaminating forces.

The urine then is a certain type of effete matter that was in the blood and that passed out through the kidney by mechanical filtration and metabolic extraction. The urine, more technically speaking, is a solution of retrograde tissue metamorphosis, and coming as it does from every part of the body, from every tissue and almost every cell, must be, to a certain extent, a valuable index to wear and tear structures.

The amount of urine passed in twenty-four hours varies, being influenced by so many factors, mental, emotional, physical, etc., however, the amount so far as the measurement of the liquid is concerned depends, of course, in the healthy individual, on the amount of water that is ingested, leaving out the activity of the skin which is influenced by temperature changes and exercise, but the amount of solid matter that is passed depends upon the amount of urea that is excreted with the urine, for the metabolic activity of the kidney cells depends upon the catalytic action of urea and unless the urea percentage is

high the solid output will be low. The quantity of urea excreted depends on the activity of the hepatic cells, whether or not they are overburdened with toxic material and falls short in its work of converting toxic metabolic products, protein end products into urea. Urea though found in urine and classed ordinarily as an excrementitious product, is a secretion of the liver, that besides acting as a cardiac stimulant acts as nature's diuretic by passing through the epithelia of the uriniferous tubules, giving them the chemotactic property of extracting from the blood products of debris that make up the solid output of the kidney. The amount of water filtered through the kidneys is a poor or rather inaccurate index as to the capacity of these organs to do work, but the amount of urea is indicative of the kidneys' capacity to excrete solid matter or that part of the debris that passes out as the result of cell metabolism in the uriniferous tubule.

From 60 to 65 grams of solid matter is excreted in 24 hours, and as about one-half of this amount is made up of urea, and as the urea passed is an index of the kidneys' capacity to excrete solid matter, then the amount of urea naturally becomes a very practical way of determining the amount of solids in a given quantity of urine. An exception to this is of course in glycosuria. I believe I would much rather know that the patient who was to have an extra strain on the kidney, as in taking an anesthetic, was passing 400 c.c. of urea than to know that he was passing 1500 c.c. of urine.

I believe that the specific gravity is relied on too implicitly as an index of the functioning capacity. It is the opinion of some that if the specific gravity is 1020 that the kidney is all right, and no further investigation is necessary. True if the urine is normal the specific gravity generally ranges around 1020, but how frequently is it abnormal and the specific gravity still remains 1020. Besides, the specific gravity of normal urine varies almost with the winds, certainly with the seasons. A specific gravity of 1010 during the winter months should not be regarded as any more abnormal than a specific gravity of 1030 in the summer, when the perspiration is relieving the kidney of so much of the diluent of the

urine; and yet we would at least look for some pathological element in urine that was either 1010 or 1030, when probably both are normal.

The color of urine, normally, is a thin pale yellow or amber fluid, with little or no consistency, which foams on shaking, but the foam disappears almost immediately unless there is some tenacious substance in the urine, as sugar or some of the derivatives of albumin, such as blood, pus, mucus, etc.

The color of the urine is a very poor index as to whether or not the specimen is normal; of course, coloring matters, such as blood, pigments, pus, and the like, at once tell us that something is abnormal, but uratic and phosphatic deposits are as misleading. We all know that a very clear urine may be loaded with sugar and a specific gravity of 1040, or have almost nothing in it and a specific gravity of 1001; or that urine that is amber colored and sparkling to the eye, is frequently swarming with bacteria; or that a very cloudy and unpromising specimen may before perfectly clear as soon as the urates are driven into solution by heat.

ACIDITY OF THE URINE.

The twenty-four-hour specimen of urine is normally acid in reaction; however, there might be times during the day, as after ingestion of a large vegetable meal, that the normal urine is either neutral or alkaline in reaction.

Urine that shows a too decided reaction is as much abnormal as an alkaline urine, for there is either too much free acid or an excess of uric acid, which can be determined, as suggested by Memminger, by taking three drams of the twenty-four-hour specimen; if not clear, filter so as to make it clear; then place it into a test tube and pour into it one-half the quantity of a strong solution of the hyposulphite of sodium. If free acid be present, a turbidity immediately forms, whose density is in proportion to the quantity of acid present. The reaction is caused by the precipitation of sulphur, the free acid having united with the sodium of the salt.

Acid urine is much more misleading to us than is alkaline urine, because when we ascertain that the urine is acid, we at once feel that it is nearer normal than when we find that it is alkaline.

When we find that the urine is alkaline we at once begin to search for the cause of the alkalinity, feeling that there must be some organism breaking up the ammonia compounds, not seeming to realize that we can have just as many bacteria in acid urine as in alkaline and of the pathogenic type, too.

The alkalinity of the urine is due to two alkalies, the one a volatile, the other a non-volatile alkali; the volatile alkali is the carbonate of ammonia. It is frequently essential to know which form of alkali is responsible for the reaction, for both turn red litmus paper blue. But in case the fixed alkali is present, the litmus does not change back to red upon being heated, whereas is the carbonate of ammonia is present, the red litmus regains its color on being dried. This differentiation is of importance, because urine showing a volatile alkali is generally an evidence of some inflammation somewhere in the urinary tract.

If both volatile and non-volatile alkali are present in the urine, of course the above tests will be negative; and Hemmeter suggests the following differentiation: Place one hundred c.c. of urine in a glass flask, to which is fitted a cork; on inserting the cork allow a moistened red litmus paper to be placed against its side, and extending down into the flask, but not reaching into the urine; heat the flask gently, but do not boil, and if any carbonate of ammonia is present the red litmus paper will immediately turn blue. Fixed alkalies in the urine generally effervesce on the addition of an acid, and to a certain extent is indicative of poor oxidation in the tissues and is associated with melancholia, dyspepsia and depression of spirits.

“In the urine of adults the chlorides consist consist almost entirely of chloride of sodium, the the average quantity passed in twenty-four hours is between twelve and thirteen grams, consequently is ranks next to urea as the principal constituent of the urine. The quantity of chlor-

ides present is subject, as with the other constituents, to fluctuations; when, however, the average falls much below the above figures, it is a sign of disease of the kidneys or else of the final stage of some lung trouble or some continued fever. When in pneumonia the chlorids leave the urine, the case must be regarded as very serious. In cases of chronic nephritis the regular and habitual falling off of chlorid of sodium in the urine gives to the case a serious and grave aspect. The chlorids are not increased in pathologic urines, but are sometimes found in larger quantities than usual when a salt diet is instituted. To determine whether they are in normal or diminished quantity, take two ounces of urine, filter is not perfectly clear, and if albumin is present heat with nitric acid and filter. Take the filtrate in this case, or, if albumin is not present, the clear urine, and acidify with nitric acid; add to it four drops of a solution of nitrate of silver, one to eight of water. If chlorids are in normal quantity (one-half of one to one per cent.) thick, curdy masses of chlorid of silver immediately fall to the bottom of the test tube." (Hemmeter.)

211 Atherton Building.

THE TREATMENT OF CONSTIPATION IN CHILDREN.

BY G. H. MELVILLE DUNLOP, M.D., F.R.C.P.,

Senior Physician to the Royal Hospital for Sick Children

As I am convinced that many cases of constipation in adult life owe their origin to the acquirement of the habit in childhood, the rectifying of the condition during early life is of great importance, and conduces much to the health, happiness, and comfort of the individual.

As a fire will not burn cheerfully unless the cinders are continually raked out, so in like manner, an infant cannot be expected to thrive or experience the buoyant happiness of childhood unless the ashes are periodically cleared out of the intestinal canal. In order to intelligently understand the methods to be adopted to overcome

the constipated habit, we must first carefully study the causes which are principally responsible for its production. We should endeavor to discover whether the seat of the mischief is in the rectum, upper part of the colon, or in the small intestine, whether the condition owes its origin to deficient secretion of the intestinal glands and liver, or whether it is due to atony and insufficient muscular contraction of the intestine.

Chief amongst the causes bringing about constipation, I have no hesitation in placing the neglect of attending to the calls of nature in early life. A child leads such an active, busy life, and is so fussily interested in his various occupations and in his play, that he is very apt to overlook, neglect, or even restrain the gentle pleadings of the bowel to be evacuated. Toleration of nature's normal stimulation soon becomes established, and eventually fails to be appreciated, and no response takes place. The child does not understand the importance of disregarding the warning, and the responsibility therefore falls on the mother or nurse, and the necessity of not allowing a day to pass without ascertaining that the child's bowels have been evacuated, cannot be too strongly impressed upon them. Even in young babies the habit is easily acquired if attention is paid to the matter. I have not seldom seen babies trained within a few weeks after birth, so that a napkin was seldom, if ever, subsequently soiled. The nurse "holds the baby out" in the recognized position, and uttering some mystical, musical shibboleth, the freemasonry of which seems to be confined to babies and monthly nurses, effects the object she has in view. In older children the child should be "seated" at some stated time of the day, preferably after a meal, as the introduction of food into the stomach seems to have the effect of starting peristaltic movement in the intestine, and he should understand that he is to remain there until the result desired has taken place. It ought to be a golden rule in every nursery that the child should be regularly put into "the position," whether he has any inclination or not. It matters very little what time of the day is chosen, but perhaps in school children, who are in a hurry to get off to school after breakfast, a later period of the day

should be selected. Plenty of time should be allowed for this important function. If at the end of ten or fifteen minutes no result has taken place, then I consider it better to insert a glycerine or other suppository than to get no result. By carrying out this system systematically a regular habit almost invariably results. A good deal has to be said in favor of Professor Chiene's suggestion with regard to the construction of water-closets. At any rate, the ordinary adult water closet is unsuitable for a young child, as he cannot get his feet on the ground, or exert any pressure to favor the expulsive movement.

The administration of too little fluid is another factor in the causation of constipation which I consider of great importance. In many such cases the faces are so hard and dry that the bowel has great difficulty in voiding them. A child should regularly drink a small tumblerful of cold water night and morning, and much more frequent draughts of water than he is in the habit of getting during the day. The Japanese have taught us much in this particular, which we are slow to learn. The want of sufficient exercise is another factor of importance in causing constipation. It is within the knowledge of everyone who looks after children that it is much more usual to find them suffering from constipation during the winter, when leading sedentary lives, than in the summer, when indulging in healthy outdoor exercises and games. In constipated children this should be borne in mind, and regular, rhythmical, systematic exercises indulged in, especially those causing the bending of the trunk on the legs, and *vice versa*. Massage does not, in my experience, attain the results so often claimed for it in young infants. In older children I have occasionally seen success from its employment when combined with other means. A professional masseuse should be employed, and deep pressure, along with kneading movements, should be exercised in the direction of the colon.

■ In breast-fed babies the condition is sometimes due to constipation in the mother, often brought about by her leading too indolent a life, or drinking too much tea, both of which can be easily rectified by a change in the mother's habits. A deficiency of fat and too little sugar in the

milk is a common cause. The addition of malt liquor to the mother's diet has the effect of raising the fat percentage in her milk. A single bottle in a day of, to the baby, some malted food is frequently efficacious. In bottle-fed children the hard, indigestible casein, and deficiency of fat, are the most pregnant causes. These can be overcome by the addition of cream and the greater dilution of the milk, preferably by oatmeal water. It must be remembered that sterilization of milk is apt to cause constipation, and a change to raw milk is often all that is required. It must also be kept in view that too much fat, as well as too little, is sometimes responsible for the constipation, by causing intestinal indigestion, and covering the faeces with mucus, which renders them slippery and difficult of expulsion. Orange juice and cod-liver oil are especially useful in rickety and scorbutic babies. Dietetic measures should always be tried before drugs, so when the latter are once employed they frequently require to be increased in quantity. No plan is worse than the administration of a purgative every few days. A few grains of phosphate of soda or milk of magnesia, when added to the feeding-bottle, are the drugs I have found most efficacious. Injections or suppositories are not to be recommended for frequent use, as the parts soon become insensitive to stimulation. For occasional use, high injections of olive oil are sometimes serviceable. Suppositories containing aloin, belladonna, and nux vomica are better than soap and glycerine, which are too stimulating. When the stools are grey or clay colored and offensive, and accompanied by much flatulence, nothing is better than a course of grey powder. In older children the insistence of cultivating the daily habit is of the greatest importance. In the matter of diet, porridge taken with golden syrup, brown bread with plenty of butter, green vegetables, fruit raw or cooked, the limitation of milk and the avoidance of white bread and the starchy foods are the main dietetic indications. Malt and cod-liver oil in rickety and atrophic children are often invaluable.

I consider the most useful drug to be the various compounds of cascara. It acts better, I think, when given in small doses, three times a day, than in a larger does at

night, and, when combined with equal parts of liquid extract of liquorice and glycerine, it seldom fails to effect a cure when persevered with for some time. Another old-fashioned method which I have found of great service is the administration of sulphur and cream of tartar. When mixed with syrup of lemons so as to form a paste, it is quite palatable, and readily taken by young children.

ANNUAL MEETING KENTUCKY STATE MEDICAL ASSOCIATION.

CONTINUED.

"Some Consideration of the Surgical Treatment of Cancer"

By A. J. Ochsner, Chicago.

"Local Versus General Anesthesia in Ano-Rectal Surgery."

By S. J. Grant, New York.

ABSTRACT: The following is a brief resume of some of the essential points made in Dr. Grant's paper on "Local Versus General Anesthesia in Ano-Rectal Surgery," which was read before the Kentucky State Medical Association, at Louisville, Ky., October 19.

1. Time should not be wasted in attempts to build up patients suffering from rectal diseases before operation because their rundown condition is usually due to their local ailment and will not improve until it is corrected.

2. Elaborate preparations of patients for rectal operations by purgation and colonic flushings are undesirable because they liquify the feces and fill the colon with water which constantly dribbles over the field of operation.

3. It is much better to let the patient alone until one hour previous to the operation and then give him a low water or medicated enema which will cleanse the rectum and be entirely expelled.

4. When operating for hemorrhoids, fissure, fistula, polyps, and many other rectal affections, there is practically no danger from infection, consequently patients should not be given the unnecessary pain caused by plugging the rectum with antiseptic gauze or the annoyance induced by outgrowing hairs when the parts have been shaved.

5. More than 80 per cent. of all diseases of the ano-rectal region can be radically and painlessly operated upon under local anesthesia at the office, home of the patient or hospital.

6. The common practice of administering gas, ether, chloroform and other general anesthetics is unjustifiable in this class of cases because nearly all of these ailments can be operated upon within five or eight minutes under regional anesthesia.

7. Operations for fissure, hemorrhoids, ulcers, polyps, papillæ, simple fistula, etc., can be quickly performed under anesthesia produced under cocaine, eucaine, sterile water or any other of the recognized fluid local anesthetics if the surgeon knows how to use them properly.

8. When the operator's technique is perfect the operation will cause no pain and the result will be good, but on the other hand, if his technique is bad he will cause the patient a great deal of suffering during the operation and will not cure him.

9. In this class of work the surgeon who employs the fewest instruments and the most simplified technique accomplishes the most satisfactory results, in fact a great deal depends upon the manner in which the infiltration is made.

10. To obtain desirable results under both local and general anesthesia it is necessary to do a good operation and to carefully carry out the post-operative treatment.

11. *General* should be substituted for *local* anesthesia in cases of fissure, hemorrhoids, ulcer, fistula, etc. when complicated by some other serious rectal affection, for very deep and extensive operations, and whenever there is any doubt as to the diagnosis or as to the extent of the cutting necessary to be done.

12. The almost universal success which has followed the employment of local anesthetics in operations in and about the rectum should encourage the general surgeon to employ regional anesthesia in other parts of the body very much more frequently than he has in the past.

“Clinical Diagnosis of Amœbic Dysentery,”

By Carl D. Render, Louisville.

ABSTRACT: This is essentially the detection of motile amœba that have been obtained from the intestinal tract. It is usually taught that the stools should be examined for these protozoa. We have shown repeatedly that this method requires a great deal

more time and is much less reliable than that of obtaining the specimen directly from the surface of the ulcer. We never rely upon the examination of the stools except in those instances where there is no lesion that may be detected in the rectum or sigmoid.

In almost every case of chronic amebic dysentery ulcers are present in the rectum and sigmoid.

After one has seen and treated a number of these cases it is with but little difficulty that a diagnosis can be made reasonably certain from the patient's general appearance and the history obtained from him. Motile ameba being sought only for confirmation of the probable diagnosis.

The technique employed in exposing the ulcer and obtaining the specimen requires special attention. Unless the specimen is kept at the proper temperature and spread upon the slide in the correct way failure to detect the ameba will likely result.

The diagnosis of complication, such as liver abscesses, will not be dealt with in this paper.

"Treatment of Amebic Dysentery," By G. S. Hanes, Louisville.

ABSTRACT: In the title of this paper it is assumed that there is a form of inflammation and ulceration, chiefly located in the large gut, that is positively due to the presence and activity of the ameba coli. There will be no discussion of the theories advanced and adhered to by a few observers who do not accept the idea of amebic infection.

The treatment then resolves itself into the employment of whatever method or methods that will most easily and successfully inhibit the activity and destroy the life of this protozoan parasite. So far no satisfactory plan of treatment has been discovered.

The treatment of chronic amebic dysentery may be discussed as follows:

1st *General Treatment.* The patient is kept quiet in bed. He should occupy a bright and well ventilated room. If suffering from pain in the abdomen of rectum, heat, cold, rectal suppositories, etc. should be employed.

2d. *Diet.* It is undoubtedly true that these emaciated patients are not given sufficient amount of substantial food. Vegetables and fruits should be withheld.

3d. *Internal Medication.* In a limited number of cases it undoubtedly has some value but can not be relied upon in a general way. Ipecac has been used more extensively than any other internal agent.

4th. *Local Treatment.* This is the one feature of the treatment upon which we must chiefly rely. Either one of two methods may be employed in conveying the remedial agent to the diseased portion of the bowel. The most effectual method is to irrigate the entire large bowel through the stump of the appendix after an appendicostomy has been done. The other method consists in the introduction of solutions, etc. through the rectum.

5th. *Climate.* In some cases, under this influence, the improvement is very marked.

"Infected Wounds"By J. M. Salmon, Ashland.

ABSTRACT: 1. Definition. Sources of infection and nature of infective organisms.

Pathological phenomena attending infection of wounds.

Symptoms vary with organisms present. Importance of proper initial dressing of wounds as prophylactic measure. Treatment indicated for relief of tension. Cleansing and disinfection of wound. Value of efficient drainage. Dressings should be hot, moist, covered by protective, loosely applied and frequently changed.

Specific treatment by antitoxic sera.

General systemic treatment.

"The Combined Course"By J. W. Pryor, Lexington.

ABSTRACT: Giving the curriculum of courses leading the degree of B. A. and B. S. in the university and that of M. D. in the medical school, covering a period of six years.

Considering First: the entrance requirements to the freshman's year of the university. Second: the arrangements of the curriculum of the freshman and sophomore year in harmony with the recommendations of the Council of Education of the American Medical Association and the Association of American Medical Colleges. The drift around this is the most probable solution to pre-medical education, etc.

WEDNESDAY, OCTOBER 20TH.

EVENING SESSION — SECOND DAY.

SYMPOSIUM OF THE SOCIAL EVIL.

“The Black Peril” By J. M. Mathews, Louisville.

“The Need of Publicity in Venereal Prophylaxis,”

By Prince A. Morrow, New York.

“Cost of General Infection as Viewed,”

By (a) The General Practitioner C. H. Vaught.

By (b) The General Surgeon W. A. Quinn.

By (c) The Urologist Carl Lewis Wheeler.

By (d) The Gynecologist Louis Frank.

By (e) The Lawyer Hon. R. W. Bingham.

By (f) The Minister Rev. E. L. Powell.

By (g) The Sociologist Hon. J. H. Hager.

THURSDAY, OCTOBER 21ST.

MORNING SESSION — THIRD DAY.

“Perineorrhaphy” By Leo Bloch, Louisville.

ABSTRACT: Anatomy and function of the perineum.

Lacerations of the perineum an unavoidable injury.

Obstetrician failure to recognize, or carelessness in giving surgical aid.

My hospital experience shows 75 per cent. of poor and 40 per cent. of women in private practice have lacerated perineums.

Varieties: Complete and incomplete.

All lacerations, however small, should receive immediate surgical attention.

Failure of primary union due to trauma or sepsis.

Secondary operations.

Physical and mental relief afforded by operation.

“The Diagnosis Value of Pain,” . . By Vernon Blythe, Paducah.

ABSTRACT: A definition of pain from a physiological and pathological point of view.

At this particular time it is doubly important for physicians to study the true significance of pain on account of the promulgation of so many obscure views by the recently arisen cults.

An analysis of the mission, especially as a safeguard to our physical welfare.

The diagnosis value of the character of pain. A distinction between reflex and refined pain, we must recognize these conditions.

The power of suggestion over pain is more than most doctors appreciate.

To fully understand the value of pain in disease it is absolutely necessary to study carefully its true seat. Some of the differences of pain in children and adults.

How far can we trust the statements of patients in regard to pain.

It is very necessary for physicians to study with more care the mentality of patients when pain is present.

“The Diagnosis of Incipient Tuberculosis,”

By O. W. Rash, Owensboro.

ABSTRACT: Incipient tuberculosis defined. Tuberculosis to be excluded in diagnosing ailments of *all* patients who might possibly be tubercular. Lack of preparation and carelessness principal causes for failure to diagnose early cases. Significance of slight rise of temperature. Slight subjective symptoms. Early physical signs. Microscopic examination seldom available in incipient cases. The subcutaneous use of tuberculin. Calmette's reaction. The percutaneous tests of von Pirquet, Detre, and Moro.

“Dangers of Animal Tuberculosis to the Public Health,”

By F. T. Eisenman, Louisville.

ABSTRACT: The prevalence of tuberculosis in animals apparently healthy presented for slaughter at abattoirs where Government inspection is maintained. The number of cases found presented for slaughter and the final disposition of the carcasses. The danger of tuberculosis of animals slaughtered in the little butcher shop where the disease is not detected and ignored if found. The danger of tuberculosis in milk from untested cows. The neglect of the public in not demanding pure milk and wholesome meat. The indifference of the medical practitioners to the source of food supply that is contaminated with tuberculosis.

“Diagnosis, Pathological Anatomy and Complications of Compound Fractures” By W. L. Mosby, Bardwell.

ABSTRACT: Mortality, old treatment.
Mortality, new treatment.
Bacteriology of wound infection.
Volkman's advancement in the treatment.
Debridement, methods, etc.
Resection indications for.
Conservative treatment, advantages, etc.
Treatment of wound.
Flxiation and immobilization means of securing, etc.
Medico-legal sequences, etc.

“The Treatment of Compound Fractures,”

By J. G. Carpenter, Stanford.

ABSTRACT: 1st. Treatment of shock, the physicalmental state of patient.

2. Treatment of the flesh wound and bone wound and field of wound by antiseptics, thorough cleansing, arrest of hemorrhage.

3d. Wound being asepticised, reduce the fracture, with or without drainage as the case may demand.

4th. Complete coaptation of the fractured ends with immobilization of the fracture; if necessary with bone rings, bone ber-nuets, bone pegs, silver wire or chroneecised cat gut ligatures.

5th. In compound comminuted fractures, ligate the comminuted fragments together or to the shaft.

6th. Remove detached fragments of bones, cleanse and place them in 1/1000 or 1/2000 bichloride solution, then in warm saline solution temperature of the blood and transplant them into the wound.

7th. Drainage if necessary; then with antiseptic dressing.

8th. The immobilization of the fracture bone proximal and distal points, with proper splints and extension and counter extension, *with complete rest of limb.*

9th. Treatment and prevention of complications.

10th. The Restitutio ad integrum.

11th. Call a good ethical surgical consultant at once; the scriptures and the law state from the mouths of two competent

witnesses shall every word be established and malpractice suits prevented.

12th. Get into the "life boat" before you have a case of compound fracture by joining the Kentucky Medical Defense League.

"Management of Burns"By C. C. Garr, Lexington.

ABSTRACT: There are two general classifications of burns: First, in regard to depth—first, second, third degrees. Second, in regard to cause—1. flame; 2. hot or molten metal; 3. steam; 4. electricity; 5. chemical; 6. X-ray.

Constitutional treatment is at first most important. Relieve pain and combat shock. In this morphine, atrophine, adrenalin, chloride and proctoclysis are serviceable.

For the local treatment, the old time carron oil is preferred as it relieves the pain and hastens but does not increase sloughing. Mention is made of picric acid and other applications.

After granulations are healthy the only rational thing is skin grafting. The writer used a modified Thiersch employing an air dressing.

"A Plea for an Early Diagnosis in the Perforations of Typhoid Fever"By Hugh E. Prather, Hickman.

ABSTRACT: The many obscure signs and symptoms. Early diagnosis essential to proper treatment.—*Kentucky Medical Journal*.

Abstract of Some of the Principal Papers Read Before the
American Proctologic Society,
 Eleventh Annual Meeting, Atlantic City, N. J., June 7 & 8, 1909.

"TUBERCULAR FISTULA WITH EXTENSIVE INFILTRATION WITH SPECIMEN EXHIBITED."

BY SAMUEL T. EARLE, M.D., BALTIMORE, MD.

Who reported a case of tubercular ischio-rectal fistula, which on the skin surface, resembled an acute inflammatory condition ready to break down, yet when

opened, it proved to be a dense mass of fibrous tissue with only a few tracts of necrotic tissue running through it.

The patient, was a policeman, age forty-five; robust and of a ruddy color, weighing 180 pounds; no cough, no history of pulmonary trouble. Patient admitted to hospital, Dec. 29, 1906.

The left buttock was very much swollen and inflamed; there were several fistula openings on its surface, which could not be followed far beneath the skin, and there was one of them opened just to the right of the anterior commissure, into the anal canal. Upon laying open the buttock between two of the openings, there was exposed a mass of white fibrous tissue that seemed to be encapsulated—except at points which apparently were necrotic—which was adherent to the subcutaneous tissue. Supposing it to be a tumor, which had broken down in places, an incision was made, on either side near each lateral border for the purpose of removing it, which was done. The mass measured 6x3 inches.

It ran down to and some went between the muscles of the buttock, and in one or two instances involved the same. The tract from the inner margin of the mass, to the opening in the anal canal, was then laid open and packed with gauze. The cavity left was so large that sutures were introduced to draw the edges partially together, and to hold in the packing. These were supplemented by adhesive strips.

After the mass was removed, it was found to be composed principally of fat, with here and there a sinus which was surrounded by dense fibrous tissue from one-quarter to one-half inch thick, and there were found several large larva, supposedly of flies, deep down in the sinuses of the growth. The tapering, tail-like process, that extended over the trochanter major, was composed principally of muscle.

Upon microscopical examination, the growth proved to be tubercular. The patient made a slow but complete recovery. The large cavity filled in completely. The patient is now perfectly well and robust.

“THE TEST DIET; NITROGEN AND SULPHATE PARTITIONS AS AN AID TO DIAGNOSIS IN INTESTINAL DISTURBANCES.”

BY JEROME M. LYNCH, M.D., NEW YORK CITY, N. Y.

Who stated that the subject of test-diet, as suggested by Professor Schmidt, is one well worthy of study. If, after a proctoscopic examination of the rectum and sigmoid—and an examination of the stomach contents, a case is still obscure, the test-diet should be given, and an examination of the feces and a thorough examination of the urine, with nitrogen and sulphate partitions, be made. Otherwise, one cannot conscientiously say he has exhausted all the resources at his command.

These tests, he admitted, are not always conclusive, but in most cases they are of great help; often, a positive solution of doubtful problems.

Of twenty-five cases under observation during the last six months, he found three of especial interest. Case 1 was referred for treatment on account of moderate diarrhea, with prolapsing and bleeding internal hemorrhoids. The stomach had been previously examined with negative results. Proctoscopic examination, except for hemorrhoidal condition was negative. Put on test-diet. The specimen of feces examined had a somewhat pasty consistency, a light yellow color, normal order and showed no macroscopic admixture. Microscopic examination showed the usual amount of striped muscle fiber, carbohydrate food remnants and granular detritus, with an excess of free fat and fatty acids. The starch was properly digested; bacterial flora, not excessive; reaction, neutral. Sublimate test, negative. Fermentation test, negative. The specimen showed evidence of deficient bile admixture.

The analysis of a twenty-four hour specimen of urine showed a specimen to contain no albumen and no renal elements, with a normal daily amount of urine, a normal specific gravity and a normal daily excretion of urea. The sulphate ratio as well as the ratio of the urea and uric acid was somewhat depressed, with the presence of a marked excess of indican.

Analysis of this report disclosed at once the cause of the diarrhea, namely: deficiency of bile with excess of fatty fluids and depressing of sulphate ratio, causing auto-intoxication.

The other two cases were equally interesting.

Relative to the determination of the clinical significance of faulty sulphate and nitrogen partition, the writer stated that the relative increase in ethereal sulphate may be due to one of several causes, among which were mentioned—stasis in the bowel, ingestion of decomposing nitrogenous food, improper digestion of food in the stomach and upper intestine, by diminution or absence of hydrochloric acid and bile, the result of excessive or faulty bacterial fermentation in the lower portion of the small intestine and the upper portion of the large intestine. This process may exist without an actual toxemia may exist without this particular putrefactive process; but they are usually associated.

Excess of ethereal sulphate is usually associated with an excess of endoxyl sulphate, though not always. Without means of estimating the amount of the actual products of toxemia, the relative excess of ethereal sulphate is used as a guide, although subject to errors, as are other guides.

Fault in the nitrogen partition would seem to justify the inference that the hepatic function is disturbed. The decrease in the relative amount of urea nitrogen probably indicated the degree of the fault. With this decrease, there is a relative increase in the amount of one or more of the other forms of nitrogen in the urine. In the severe toxemias of pregnancy, pneumonia, etc., this is chiefly in Ammonia Nitrogen and Creatinin Nitrogen; in digestive disturbances the increase in the so-called Extractive Nitrogen, and in lithemic cases and in those of cyclic vomiting, headache, or albuminuria, in the Purin Nitrogen as well, particularly during the acute attack. In cases of enteritis or colitis, owing to the destruction of cells, the Purin Nitrogen is often increased.

Faulty nitrogen partition may exist without a toxemia, but a hepatotoxemia without a faulty nitrogen partition is practically unknown. Acidosis frequently ac-

companies a faulty nitrogen partition; but it would seem an evidence of the toxemia rather than of the fault in hepatic function, though this is disputed by some.

“MULTIPLE ADENOMATA OF THE RECTUM.”

BY JAMES P. TUTTLE, M.D., NEW YORK CITY.

Who stated that the distinction between multiple adenomata ad polypi is more marked clinically, than histologically. Pendunculated adenomata or polypi may exist in varying numbers without constituting a true multiple adenomata. Age and its relation to the two types; distinction between the two types in proportion to the number of growths; the relative frequency of the growths in different portions of the bowel; growths found largely in the sulci and not in the mucous folds of the bowel. What is the probability of malignant metamorphosis when not interfered with? The tendency to recurrence, in malignant form, after surgical measures? Results of internal and local medication; results of functional rest to the parts. Does radical operation furnish the best hope for the patient, in view of clinical experience?

“SURGICAL TREATMENT OF DIARRHEA AND A DESCRIPTION OF A NEW CECOSTOMY WHICH PERMITS FREE IRRIGATION OF BOTH THE SMALL AND LARGE INTESTINE.”

BY SAMUEL GOODWIN GANT, M.D., LL.D., NEW YORK CITY, N. Y.

In this article attention was first called to the frequency of occurrence of chronic diarrhea and the simplest and most reliable methods were briefly outlined of diagnosing ulcerative lesions of the colon inducing diarrhea and also the relative frequency was mentioned between gastric and hepatic diarrhea and those caused by local disease of the large intestine. The author then proceeded to make the following points:

First. That acute attacks of diarrhea could sometimes be controlled by diet, rest and internal medication, and, further, that the frequency of the evacuations could

easily be diminished by these therapeutic measures in chronic diarrhea, but that a cure of the latter could be accomplished only in rare instances in this way.

Second. That the treatment of chronic ulcerative colitis by internal medication should be abandoned because it is harmful in many ways and utterly unreliable in so far as a cure of the diarrhea is concerned.

Third. That *direct bowel treatment* by lavage or medicated irrigation introduced through the anus or from above through the appendix or cecum, is the only rational treatment for diarrhea due to ulcerative lesions of the colon.

Fourth. That operative procedures are contradicted except in cases where, for any reason, the colon tube cannot be introduced sufficiently high, to insure thorough washing out of the entire large bowel and when operative procedures are declined.

Fifth. That the surgical treatment of chronic diarrhea gives universal satisfaction and that he recommended appendicostomy and cecostomy for the relief of this ailment with the same confidence that he did appendectomy for appendicitis.

Sixth. The relative values of *resection, intestinal exclusion, colostomy, appendicostomy, simple cecostomy, and cecostomy* with an arrangement for irrigating the small intestine (Gant's operation), in the treatment of chronic diarrhea, were fully discussed. The results of his experience show that appendicostomy and cecostomy could be performed most quickly, were the least dangerous, give the best results and were less often followed by unpleasant sequelae than the other procedures.

Seventh. He stated that formerly he was prejudiced in favor of appendicostomy, but that a more recent and larger experience had caused him to look with greater favor upon cecostomy, especially when combined with irrigation of the small intestine. He maintained that his cecostomy was suitable in all cases of chronic diarrhea because it could be employed when the frequent stools were due to both an enteritis and an ulcerative colitis and when the lesions were confined to the colon alone, and, further, that his operation should supersede ap-

pendicostomy, in many instances, because the appendix was frequently unfit for irrigating purposes because it was too short, too narrow, strictured or bound down by adhesions and often had a tendency to become necrotic, slip back into the abdomen, become closed when not kept open by the introduction of a catheter and that appendicostomy was not suitable when the small bowel was diseased.

Eighth. He then briefly described the technic of his cecostomy with provision for small intestine irrigation, the main idea of which consisted in making an opening in the cecum and inserting two tubes, one into the cecum and the other into the small intestine through the ileocolic valve by the aid of a catheter-carrier. He claimed that the advantages of this procedure over other operations was that either the small or large bowel could be irrigated at will and that there was no fecal leakage about the catheters.

Ninth. In concluding his remarks, he summarized the results obtained by him in the surgical treatment of chronic diarrhea by the through and through method and reported 38 cases treated by appendicostomy, and 14 by cecostomy, 8 of the latter being operated upon by the Gibson, and the remainder by his new procedure and said that the universally successful results obtained by surgery in this class of case is far better than those obtained by the use of the time-worn way, where they depend upon dieting, rest and medication, as practiced by many physicians today.

“A REPORT OF TWO CASES OF ANOMALOUS SIGMOID.”

BY ARTHUR HEBB, M.D., OF BALTIMORE, MD.

One case was an extremely long sigmoid, reaching from the mammary line to a point midway of the thighs, when withdrawn from the abdomen; the second case was a short sigmoid, with a mesentery 3-4 inches in length, situated above the crest of the ilium, on a line with the lower border of the last rib, coming off from the descending colon. It was only 4 inches in length. The descend-

ing loop, with no mesentery, ran down over the bifurcation of the left iliac artery and ureter; then forward, hugging the left side of the pelvis and down over the anterior and posterior branches of the internal iliac artery where it joined the rectum.

“APPENDICOSTOMY AS AN AID TO THE TREATMENT AND INTRACTABLE DYSENTERY.”

BY JOHN L. JELKS, M.D., MEMPHIS, TENNESSEE.

In reference to this subject, the author stated that when amebic infection had become very chronic or had extended into all the parts of the colon beyond the use of local measures, and, in some instances, of acute malignant cases appendicostomy should be performed and irrigation practiced through the appendiceal stump. The water is allowed to pass out through the rectum into a catch-basin and is not an unpleasant method of treatment. Dr. Jelks prefers the method suggested by Dr. James P. Tuttle, of New York City, who conceived the plan of allowing the appendix to remain undisturbed after anchorage, for a sufficient time (three or four days), to establish adhesion about the proximal end, before cutting away the distal portion and using the appendiceal stump-lumen through which to irrigate with the desired solutions.

Dr. Jelks practiced this method and irrigated the colon with formalin-boric, copper-phenol-sulphonate, quinine and normal salt solutions with gratifying results. It was observed, however, that irrigations thus given did not effect a cure. Topical applications (per sigmoidoscope or rectoscope) were in all cases used in conjunction.

The method as used by Weir, and as advised by Tuttle, is practically free from danger, and the author believes is not more hazardous than appendicostomy and the after-effects are not at all unpleasant to the patient in the ways and degrees that a colostomy must be. He sees no great danger of hernia or wound infection if

proper precautions are taken in dressing the same. By this method one may practice almost continuous irrigation of an inflamed colon and rectum with no special degree of pain or discomfort to the patient—the appendix being used as a nozzle, directing the solution into the colon.

He does not advise appendicostomy except in a small percentage of cases mostly chronic ones, but in these, he insists that it is a most valuable aid to treatment and that the operation itself is practically free from danger, as is appendectomy when the appendix is not the seat of infection.

The author concludes his article by stating that in all cases requiring appendicostomy we should not permit the stump to close before the expiration of one year. He has been forced to reopen an appendical stump three months after closure and resume irrigations. This was accomplished in his office, but it may become a difficult matter to find the lumen of a closed appendix.

“PRIMARY GONORRHEA OF THE RECTUM IN THE MALE.”

BY ALFRED J. ZOBEL, M.D., SAN FRANCISCO, CAL.

The writer stated that a review of the literature for the past five years showed very little to have been written on the subject of rectal gonorrhea, and the cases reported have been rectal gonorrhea in the female and for the most part secondary to an infection of the genital tract.

It was also stated that gonorrhea of the rectum in the male is almost always the result of sodomistic practices, and when so, can be considered of the primary type. The condition has been rather rare in this country, but since the influx of foreigners from those countries where unnatural practices are common, more cases are now seen.

The cases reported by the writer were seen in the rectal clinic at the San Francisco Polyclinic and were in American born boys of 16, 18 and 20 years of age, respectively. They belonged to the tramp class and were

of a rather low order of intelligence. They were ignorant of their true condition and came to the Clinic with a self-made diagnosis of "piles." When made aware of the true nature of their trouble it had a markedly depressing effect upon them, which in one case, after a few weeks, developed into a condition resembling the neurasthenia which often accompanies a chronic posterior urethritis.

The symptoms complained of, briefly summarized, were: all complained of such soreness about anus and rectum that they did not care to stand; while walking was an effort and caused great pain. At the time of bowel movement they suffered such excruciating pain that they hesitated to pass their feces, and had become quite constipated. Two were annoyed by discharge from the anus, while one was unaware of its presence, although it was found on examination. In one, the discharge was streaked with blood, and bleeding was noticed at the time of defecation. One complained of an itching sensation about an inch up from the anal aperture, and had severe pain on the drawing in of the anal sphincters. Their appearance was feverish, worried and haggard, and they felt weak, ill and distressed.

It was impossible to make a digital or instrumental examination at the first visit on account of the severely acute pain caused thereby. Therefore, whenever there is the least suspicion of the possibility of a specific inflammation of the anus and rectum, the case should be treated as if it actually exists, and the ultimate diagnosis left to the future. When the acute symptoms have subsided under treatment, there can be seen excoriations and fissures about the anal orifice and in the canal, with marked redness and infiltration of the mucous membrane of the anus and rectum, together with the presence of a purulent secretion. Examination of this secretion shows the presence of the gonococcus.

The author believes that gonorrhea of the rectum in the male is a much more common condition than is suspected by the general profession. Many of the latter even do not know that such a condition could exist.

The treatment is directed towards keeping the parts

clean; relieving the severe rectal symptoms; reducing the inflammatory exudates; keeping the fecal movement soft; healing the ulcerations and destroying the infective agent.

The author further brings out the important point, which he deems worthy of consideration, that there seem to be no reasons why complications, such as gonorrheal arthritis or an endocarditis could not arise. While so far as he is aware, no cases of an endocarditis or an arthritis resulting from rectal gonorrhea have been reported, yet it would be well for the internist to bear in mind that an examination of the rectum might furnish the clue in a baffling case, where the etiological factor is missing.

OPERATION FOR ANAL PRURITIS.

THOS. CHAS. MARTIN, M.D., OF WASHINGTON, D. C.

The use of a solution of cocain and adrenalin secures local anesthesia and a dry visible field. Radiating incisions do not endanger the nutrition of the parts. Corrugation of the flaps may be effaced by traction of their margins. A skin-tag may be removed within an elliptic incision, which by suture may be given a linear form. Radiating wounds require no suture, coaptate automatically when the patient is in extension, and heal by first intension.

CONTINUED IN NEXT ISSUE.

Recent Progress in Medical Science.

GASTRO-INTESTINAL ANEMIA.

From a strictly scientific standpoint, the heading of this clinical note is no doubt incorrect, or at least faulty, as there can scarcely be said to be a true anemia, due to gastro-intestinal disease, that can be morphologically differentiated from the anemia which is secondary to other devitalizing disorders. At the same time, it is undoubtedly true that gastro-enteric disease, even the common functional dyspepsia, is sufficiently long continued, is productive of an anemic blood condition. It is a well recognized fact that auto-toxemia, resulting from the constitutional absorption of the products of intestinal putrefaction, is not infrequently

Followed by a generally devitalized condition of the circulating fluid. In such cases, while attention should primarily be directed to the gastro-enteric condition, the anemia should also be treated, in order to induce recovery in the shortest possible period of time. Care should be taken to avoid the administration of drugs that tend to derange the digestion. For this reason the inorganic metallic salts of iron should not be given, as they are extremely likely to prove irritant, astringent and constipating. Pepto-Mangan (Gide) may be given, in such cases, with every assurance that the necessary iron and manganese will be promptly absorbed without irritating the gastric mucosa or inducing constipation. Children, especially, take it readily, because of its distinct palatability.

NERVOUS VOMITING.

In treating this affection no remedy is more rational than Daniel's Conct. Tinct. Passiflora Incarnata. This remedy relieves nervous tensions and hyperaesthesia, and is one of the best remedies attainable. It should be given here in liberal doses, two teaspoonfuls every two hours, until we have secured good results. In those cases where the patient cannot retain the medicine on his stomach, it must be given "per Enema." When given this way the dose must be increased and the patient must receive a tablespoonful every two hours. This will be found to speedily bring the disorder under subjection. In treating nervous vomiting we must not, of course, forget to treat any disease which is associated with it. To overlook this is to allow the patient to go along without correct treatment. In many of these cases, however, we cannot find any disease factor in these cases. Generally there is, however, sufficient symptoms present to make us know that there is hysteria present. But there is no remedy which can be compared with Daniel's Concentrated Tincture Passiflora Incarnata in overcoming hysterical manifestations, or quieting the nervous system. One merit of the remedy also is that it is in no sense dangerous, and will not establish drug addiction.

JNO. J. EAGAN, M. D.

St. Johns, N. B.

Of all the many hypnotics at the command of the medical profession there is none that gives as uniform satisfaction under all conditions as Bromidia. As has been previously stated, the

sleep produced is of a true physiological character. It is dreamless, and the patient awakes refreshed and vigorous. In proper dosage, Bromidia is perfectly safe and does not depress the heart. A teaspoonful should be given in water and, if necessary, repeated hourly until four doses have been administered. It is needless to state that, in order that maximum effect may be obtained from the initial dose, the patient should be placed under conditions favorable to the induction of sleep.

THE VALUE OF IPECAC IN TROPICAL DYSENTERY.

The value of ipecac in tropical dysentery is finally becoming acknowledged after a long period of skepticism. For a decade or so it was believed that nothing except local treatment by means of irrigations was of the slightest use, and it was held that any attempt to disinfect the colon by way of the stomach was utter nonsense. Cases were even turned over to the surgeon to establish a channel for irrigation through the appendix, but physicians are now curing apparently hopeless cases by the persistent use of large doses of ipecac, preferably thirty drops of the tincture in capsules four times daily. Moreover, the after history of many of the operations has been anything but pleasant although some brilliant results were obtained. The surgeon's services are now declined since the methods of the British physicians in India have been found to be effective. It is such a remarkable instance of the specific virtue of drugs once used empirically, that the profession would do well to look into the case of many another drug which has fallen in the battle with the therapeutic nihilists. Some of the things may have unsuspected value.—*American Medical, Oct., 1909.*

SPASMOTIC CONSTIPATION, A SYMPTOM.

Jos. N. Leconte of Atlanta, Ga., says that constipation is a symptom of many diseases, and results from many causes. The atonic and spastic forms are opposite in causation and symptoms. Spastic constipation depends upon a spastic contraction of the longitudinal and circular fibers of the intestinal wall, caused by inflammation or irritation. It is generally found in nervous, high-strung persons, especially women. Anal fissure or ulceration, and uterine and ovarian irritations are causes in women, and prostatic irritation in men. Any of the causes of chronic colitis,

or an atonic constipation may indirectly cause the spastic type. The symptoms are attacks of sharp pain along the colon or radiating from the umbilicus, especially before expulsion of gas or feces, dull aching pain in the intervals, and small scybalous or flattened stools, passed in two or three stools each day with much pain. Laxatives give much pain and act only in large doses. Mucus in considerable quantity may be passed. Harsh, irritating foods, such as are used in the atonic variety, are harmful here. The diet should be bland and should consist of materials that can be passed through a fine sieve. It is associated with mucous colitis in many cases. The cause must be removed, careful directions given for diet and hygiene, and belladonna and other muscular sedatives given. General massage of the body and extremities and galvanism are of value.—*Medical Record*, November 6, 1909.

DIAGNOSING MYOCARDITIS A MILE AWAY.

The latest enrichment of our clinical methods of cardiac investigation comes from Germany in the form of electro-cardiography. This is a graphic representation of the action currents accompanying contraction of the myocardium. It is a well known physiological fact that muscle when excited takes on an electrical condition which is negative as regards any unexcited portion, and it is the action currents thus initiated which are used in electro-cardiography.

In practice the right hand and left foot of the patient are placed in solutions containing metal electrodes. The electrical variation caused by the heart beat can be measured on connecting these terminals with a very delicate galvanometer. Einthoven passes this current from the heart through a microscopic thread of quartz suspended in a very strong magnetic field. The movements of this thread are photographed through an illuminated slit on a rapidly moving film under a glass magnifying several hundred diameters. The photographic record yields a curve known as the electro-cardiogram. This curve shows five oscillations. The largest oscillation occurs at the onset of ventricular systole. In myocardial disease this part of the curve shows a peculiar splintering—the contour being jagged instead of even.

Once an electro-cardiographic station is set up it may be used for making records not only from patients at the station itself,

but from patients at a distance. Enithoven has connected his laboratory by wiring with the wards of Leyden hospital, one and one-half miles away. He is thus able to diagnose myocarditis from this distance without inspecting, palpating, percussing or ausculting his patient.—(*Colorado Med. Jnl.* Nov. '09.)

TO RELIEVE ITCHING.

Many different local medicaments may be employed to relieve severe itching, which is usually called pruritus. Pruritus ani is one of the most torturing of so-called minor ailments. In no other condition has the overworked phrase, "Remove the cause," such significance as in this trouble. If itching depends upon a lesion elsewhere or is of constitutional origin, the appropriate treatment suggests itself.

Fresh pine tar is an effective remedy in relieving intolerable itching, although it is far from being esthetic. It is curative as well as soothing. Carbolic acid solutions relieve itching of the cuticle when used strongly and thus produce disagreeable after-effects. It is best to employ carbolic acid with glycerin or some oleaginous preparation.

To relieve the itching produced by the bites of mosquitoes, "chiggers," etc., the spots may be touched with pure carbolic acid and immediately neutralized by an application of alcohol. Oil of peppermint or a strong menthol solution may also be of much value.

Spirits of chloroform reinforced with chloral hydrate may be applied to itching parts on any portion of the body. This mixture should not be applied lavishly to the face, especially of thin-skinned people, lest it go more deeply than you desire. Menthol in alcohol or chloroform is effective in many types of itching.

In the intolerable itching of anal pruritus it may be necessary to touch the affected parts with a 20 per cent. solution of silver nitrate in order to sear over the nerve terminals. It is seldom necessary in these distressing conditions to resort to the electric or actual cautery. It is better to begin with benign remedies and increase their potency until relief follows. In the majority of cases of itching of whatsoever kind the patient is manufacturing and excreting poisons upon which the trouble depends.—(*Medical Summary*, Nov. '09.)

THE TREATMENT OF COLLAPSE.

A young doctor received as his first call in practice an urgent summons to an old man, whom he found in collapse. The case looked desperate, and the doctor didn't know what to do; so he told the family to place the man in a hot mustard bath, and keep the heat up by adding hot water. Meanwhile he ran home to consult his books. The man's sister was old and deaf, and so as soon as the man had been placed in the bath ordered hot water to be added at once. This soon restored the patient to consciousness, and after vainly expostulating he sprang from the tub despite the protests of the sister, and ran to his bed, where the doctor found him in a fine and salutary perspiration. Recovery ensued, and was very properly ascribed to the doctor's credit. He had secured an exact therapeutie effect as indicated, by the powerful stimulation of the cutaneous sensory nerve-ends. Reinforcement of the body heat was no mean factor also.

This indication is met in India by the administration of powerful local stimulants to the stomach mucosa. In treating the choleraic, dysenteric and pernicious malarial attacks common in that land, which if not quickly checked destroy life within a few hours, it is a common saying that a dose hot enough to bring the tears to the eyes will induce reaction and save the life. The following formula is an imitation and improvement of one of the Hindoo prescriptions: Chloroform, oil of cajuput, spirit of camphor and tincture of capsicum, each two drams; pure ether one ounce. Mix; give a teaspoonful without dilution, repeating every ten minutes until reaction occurs. Repetition is rarely necessary—one dose brings the tears. The comments of patients on this dose would be unfit for publication. Many and many a promising attack of cholera morbus I have cut short by a single dram of this powerful mixture; many a chill I have aborted with it. In truth, Dr. ———'s "hot drops" won such repute in a certain section that every druggist near by kept them in stock and dispensed without troubling the deviser.

This is a better formula than any of the popular remedies for cramps and colics, because those who devised the latter thought they had to put in an opiate. It would be a fine remedy to take camping were it not that it is apt to blow out the cork and be lost, and we have something better in more modern shape. The indication is as quickly, as effectually and a good deal more

pleasantly—possibly somewhat more safely—met by the use of the admirable combination of glonoin, hyoseyamine and strychnine arsenate. Glonoin sends the blood into the brain, relieves fainting, restores consciousness and relaxes vascular tension. Hyoseyamine confirms and prolongs this action, sustaining the great vital triad—brain, heart and lungs. Strychnine aids by vitalizing all the functions, and restoring the control of the central nervous system. What function does the arsenic fulfill? Well—but here we are, forgetting that we are not in the rostrum with a class of students before us—but talking to physicians who probably know more of these watters than we. So we will just stop here—if you know the part played by the arsenic you need no telling—if you don't, better read up.—(*Am. Jnl. Clin. Med.*, October, '09.)

ERRORS OF REFRACTION AND THE GENERAL PRACTITIONER.

The Section in Ophthalmology of the American Medical Association has obviously done a good thing in appointing a committee to promote a working knowledge of the correction of simple errors of ocular refraction among family physicians. The committee has already secured abundant evidence that such knowledge has been acquired by many physicians and that they have put it to practical use, thus making it evident that the same thing may be done by physicians in general, who certainly ought to be disposed to possess themselves of the requisite skill.

We are not astonished, however, to learn that it seems necessary to the committee, of which Dr. Leartus Connor, of Detroit, is the chairman, that, in order that the practice of correcting errors of refraction may become uniform, the State examining boards shall require proficiency in it and the medical schools teach it in their course. It appears that last winter the Michigan board notified the medical colleges that thereafter it would grant the license to practice only to such applicants as demonstrated on a living subject, with simple spherical lenses and test types, that they possessed a working knowledge of the subject. The committee feels confident that all the State boards would make a similar requirement if they realized the situation.

Ordinarily we are not in favor of heaping more work on the medical student, but this is such a simple matter and one that can be turned to such good account by the general practitioner that

we are disposed to urge conformity to the committee's recommendations, understanding of course that the training given in the colleges will be of a kind to enable the physician to recognize when he is getting into deep water in the attempt to correct refractive errors and know what patients he ought to turn over to the highly trained ophthalmologist.—(*New York Medical Journal*, Nov. '09.)

NEW METHODS OF TREATING PNEUMONIA.

With the article by Dr. Timothy Leary on vaccine treatment of lobar pneumonia, published in the latest previous issue of this *Journal* may interestingly be compared the paper by Dr. Cleveland Floyd and Dr. W. P. Lucas in the September number of the *Journal of Medical Research*, describing their study of the action of leucocytic extract on the course of pneumonia.

Dr. Leary reports a series of 34 cases of pneumonia in alcoholics treated with pneumococcus vaccine with a mortality of 17.7 per cent. as against the usual mortality of over 40 per cent. in this class of cases. In another series of 49 ordinary cases there were only 2 deaths, making a total mortality of 9.7 per cent. for both series.

In contrast with this, Drs. Floyd and Lucas present a series of 41 unselected cases treated with leucocytic extract with a mortality of 12.2 per cent. These figures, though not sufficient for proof, are surely striking in comparison with the average mortality from pneumonia, which Wells, Musser and Norris, from compilation of many thousand cases, agree in placing at over 20 per cent.

For both these new methods of treatment are claimed the advantages of lessened toxemia, expedited crisis and diminished mortality. Possibly each accomplishes the same result in a different way, one by stimulating and exaggerating normal production of antibacterial and antitoxic substances in the blood, the other by supplying these substances directly. Whichever proves in practice the more efficacious, it is earnestly to be hoped that further trial of both may be made in order to obtain further data of their value in the treatment of this disease which is now in many communities the most frequent cause of death.—(*Boston Med. and Surg. Jnl.*, Nov. 18, '09.)

THE HOOK WORM DISEASE IN THE SOUTH.

From reports of investigation made by Dr. Stiles, of the Marine Hospital Service, Hook Worm disease is very widely distributed throughout the South among the tenant classes, especially in the sand regions of Alabama, Georgia, North and South Carolina. There can be no doubt that this disease was brought to this country by the negroes imported from Africa who, while being capable of distributing the disease and infecting large areas, do not suffer materially from its effects themselves.

It is but history repeating itself when one finds again that a lower race cannot live in the midst of a higher class without materially spreading trouble in the forms both of social problems and diseased conditions. While this disease has existed for many years in this country, recent studies have demonstrated its alarming prevalence, especially among the farming classes in the localities mentioned. The worm is incapable of propagation within the intestinal tract, but, being passed from the bowels in the form of ova, deposited in fruitful soil such as the bad sanitation of the privies and water closets of this section of the South are known to afford, they develop in enormous numbers, infecting the white classes by entering through the skin of the soles of the feet, producing the familiar disease known as Ground Itch or dew poison, thence entering the circulation and permeating the system. They finally enter the alimentary tract and there produce the constitutional effects which are so well known throughout this section. The blood becomes impoverished with a very low haemoglobin per cent, thereby materially stunting the growth and development of the child, both mentally and physically. Indeed, adults 20 to 25 years of age, who are thus infected, look to be only 10 or 12, and in their mental lethargy are incapable of receiving even the fundamentals of an education, making, according to Dr. Stiles, a condition in which thousands of dollars are expended yearly by the Southern States in a senseless effort to educate them. Not only this, but in their weakened condition they are incapable of hard labor and become practically drones in the great commercial world. It is surprising how rapidly this condition improves when surrounded by better hygiene and by the administration of the specific remedy thymol, which, in properly graded doses, seems to completely eradicate the disease. If these cases could be given this remedy early in the morning,

followed by a brisk purge of either saline or castor oil at night, the whole mental and physical being would undergo a wonderful change for the better, and this disease would be eradicated very rapidly, provided a more intelligent sanitation was forced upon these ignorant people. Indeed, this is a question of such importance that it would seem justifiable that State legislation should be called in to pass laws demanding better privies by which these infectious discharges would be passed into receptacles containing crude carbolic acid, thus at once improving the general sanitation and preventing the spread of the disease. To be successful it is absolutely necessary that laws be passed and enforced, because of the ignorance of this class of tenant whites and the absolute indifference of the negro population throughout the South in all matters pertaining to public health. Dr. Stiles very correctly states and shows conclusively by years of study and observation throughout this territory that the cotton mills, condemned so widely because of child labor, not only by the North, who do not understand the conditions of the South, but by those of us who have heretofore considered the ill-health and general anaemias of this class as being due directly to the confinement and inhalation of the fumes of the cotton mills, are truly the benefactors of these people, and that this disease, while responsible for the maladies heretofore ascribed to the mills, lessens materially when brought under the direct efforts at hygiene and sanitation. The laborers of these mills marvelously improve over those who remain on the farms as tenants amidst surroundings of filth never seen in or about cotton factory districts. In the light of these facts, given by a scientific and unprejudiced observer coming from New England, it would seem that we should go very slow when we condemn the cotton mill of the South and its child labor, when, to use his words, they are the best friends the poor tenant class in the South have. It is to be hoped that with a large negro population who are a menace to the health and prosperity of our people, the legislatures of the various Southern States will be brought to appreciate the dangers surrounding us and pass strict laws demanding their enforcement, that the white population of the South may be protected in a measure from all infections such as tuberculosis, typhoid fever, hook worm, disease, etc., which are distributed and kept alive by the ignorance, superstition and indifference of our large negro population. Believing that we have the garden spot of the world south of Mason and Dixon's line,

possessing every requisite for the health, happiness and prosperity of mankind, it behooves every good citizen to grapple with this proposition of public health and the unfavorable surroundings produced by local conditions, thereby controlling and eradicating them from our midst, and protecting our own people from these scourges which have been thrust upon us and kept with us by an inferior race.—(*Southern Medical Journal*, October, 1909.)

URIC ACID AND GOUT.

His and Freudweiler have not long since produced evidence to account for the Sodium Urate deposits in cases of gout. They showed that an inflammatory process, similar to the one observed in gout, can be produced by a crystalline deposition of sodium biurate; and Kionka has shown by animal experiments that a long-continued increase of the alimentary uric acid content of the blood leads—at least in certain places—to a precipitation of uric acid crystals. The concurring views of numerous authors, that a primary overloading of the blood with uric acid plays an important role in bringing about a condition favorable for the urate deposit, meet with no serious controversy. The questions, however, still remaining to be studied are: 1. Why in cases of leukemia, pneumonia, and of chronic nephritis, in which there is likewise a noticeable overloading of the blood serum with uric acid, there seldom or never results a condition similar to the one observed in gout; and 2. Why the deposits are always formed in certain predetermined places in the body. H. Strauss, in his recent excellent monograph, says in regard to the first point, that the combination of gout and leukemia has been described by Duckworth, Pibram, and Ebstein, but that such cases are very rare; however, he refers to the fact that gout and nephritis occur coincidently by no means infrequently. According to Strauss in gout the overloading of the blood serum and the tissue fluid with uric acid is not a necessary condition for the precipitation of the crystalline deposit of acid sodium urate. And, also, the fact that this crystalline precipitation does not take place in all tissues, but only in certain definite locations, shows that the purely chemical process caused by a superabundance of uric acid in the plasma cannot be the decisive factor. The consideration must be added, to which attention has already been called, that a similar increase

is possible in the blood of those who are not gouty. On this account it is important to investigate the causes for the precipitation of urates from a solution which contains large amounts of uric acid, but is not saturated. This shows the direction for an investigation of the relation between alkalescence and activity of the blood. Researches along these lines have been conducted by Klemperer, who employed the method of determining the CO_2 content of the blood, by Strauss, and by Magnus-Levy according to the titration procedure of Loewy. None of these, however, have brought to light any reduction in the alkalinity of the blood. Strauss has shown that the human organism holds with extraordinary tenacity to a blood alkalescence within a certain limited range (300-350 mg. NaOH to 100cc. blood.) He concludes therefrom that the influence of the alkalis introduced into the body does not seem of the highest importance in the solution and hence excretion of uric acid. However, it may be said that E. Pfeiffer has succeeded, by the introduction of alkali during a gouty attack, in diminishing the amount of uric acid deposited from solution; and that, on the other hand, the addition of an acid reacting compound to a solution containing uric acid, or its salts, does not under all circumstances cause the precipitation of uric acid. However, uric acid can be retained in solution, as has been shown by Minsowski and extemporaneously by Goto, by means of a chemically pure nucleic acid, namely, thymic acid. These conflicting reactions can be explained by the fact that uric acid has been wrongly classified as an acid while the other members of the xanthin group are regarded as basers. The importance attributed to the products of local processes in the precipitation of uric acid is not detracted from by the results of more recent animal experiments made by van Loghem, Silbergleit and others, who found that in animals the introduction of alkali favors the formation of urate deposits, while the introduction of acids inhibits it. This can only be explained by the assumption of local metabolic disturbances or changes. The peculiar relation of the lymphatics in cartilages causes it to appear, as Elstein mentioned, that here a local retardation of the circulation would generate a condition of fluids overladen with uric acid. Strauss attributes the establishment of a gouty attack to the heaping up of certain products of metabolism, in localities where there is already an abundance of uric acid, which is consequently precipitated.—(*Charlotte Medical Journal*, November '09.)

Therapeutic Suggestions.**BRONCHITIS.—**

Apomorph. mur.gr. ss

Pot. Bromidi dr. ij

Syr. senegæ, q. s. adfl. oz. ij

M. Sig. Teaspoonful every two hours. (First or dry stage.)

Am. mur.

Am. brom.aa. oz. j

Spir. ætheris nit.fl. oz. ss

Syr. pruni virg., q. s. adfl. oz. ij

M. Sig. Teaspoonful t. i. d. (Second stage.)

Ammon. carb.scr. ij

Spir. chloroformfl. oz. ss

Infus. senegæfl. oz. viij

M. Sig. Two tablespoonfuls every four or six hours.—
Fothergill.

Terebenefl. oz. ss

M. Sig. Two to five drops on sugar every four hours, according to child's age. —*Carmichael.*

Terebene oz. iiss

Muc. acacia

Aq. aa. fl. oz. ss

Syr. zingiberi, q. s. adfl. oz. ij

M. Sig. Teaspoonful t. i. d. (In bronchitis with profuse mucopurulent expectoration.)—*Nicholls.*

Ammonii chloridi dr. j

Ext. gyleyrrizæ fl. fl. dr. iv

Aq. dest., q. s. adfl. oz. iiij

M. Sig. One teaspoonful three times a day.

Ammon. carb., gr. xxiv

Syr. tolufl. dr. vj

Spir. vini gal.fl. dr. iiij

Syr. senegæfl. dr. iiss

Syr. acaciæ, q. s. ad.....fl. oz. iiij

M. Sig. Teaspoonful every two hours. (In capillary form.)
—*Goodhart and Starr, Dominion Medical Monthly.*

BOOKS RECEIVED.

- "American Illustrated Medical Dictionary." W. A. Newman Dorland, M.D. 876 pages. W. B. Saunders & Co., 1909. Flexible leather, \$4.50; indexed, \$5.00.
- "Text-book Modern Materia Medica and Therapeutics." By A. A. Stevens, M.D. Fifth revised edition. 675 pages. W. B. Saunders & Co., 1909. Philadelphia. Cloth, \$3.50 net.
- "Principles of Hygiene." By D. H. Bergey, M.D. Third edition; 555 pages. Illustrated. W. B. Saunders & Co., 1909. Philadelphia. Cloth, \$3.00.
- "An Epitome of Diseases of Women." By Chas. G. Child, Jr., M.D. 12 mo., 210 pages, with 101 engravings. Cloth, \$1.00 net. Lea & Febriger, publishers. Philadelphia. 1909.
- "The Medical Complications, Accidents and Sequels of Typhoid Fever and the other Exanthemata." By H. A. Hare, M.D. Second edition, 398 pages, with 26 engravings and 2 plates. Cloth, \$3.25 net. Lea & Febriger, Philadelphia.
- "Primer of Sanitation." John W. Ritchie, Prof. of Biology, College of William and Mary, Virginia. World Book Co., Yonkers-on-the-Hudson. 1909.
- "Hygienic Laboratory." Bulletin No. 57.
- I. "The Presence of Tubercle Bacilli in the Circulating Blood in Clinical and Experimental Tuberculosis." By Jno. F. Anderson.
 - II. "The Viability of the Tubercle Bacillus." By M. J. Rosenau. Government Printing Office, 1909.

BOOK REVIEWS.

- "CONFESSIONS OF A NEURASTHENIC." William Taylor Marris, M.D. F. A. Davis Co.

In this monograph of about one hundred pages, Mr. Marris attempts to portray the neurasthenic's view of a neurasthenic. The self-analysis is not deep or technical, but told in a vein that makes one feel that Dr. Marris is a star performer among the hypos. He shows in a pleasant, readable manner how the neurasthenic is both born and made, and how much influence early training has on the subsequent hysterical woman or hypochondriacal man. The inability of these people to consistently apply

themselves to any one thing is exemplified in this discourse of his own endeavor to find one thing that would interest him. The lack of stability of purpose, the jumping off from one thing to another is perhaps the worst characteristic of the neurasthenic, from the standpoint of his own and his friends' peace of mind. He deals with the class of neurasthenic, that is a neurasthenic because he has nothing else to do. The neurasthenic that is the product of mental over-work and strain, associated with lack of physical exercise is an entirely different individual. The book is so written as to appeal to laity as well as to the profession. (H. J. F.)

"CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION." Part VIII. By Prof. Dr. H. Strauss, Prof. of the Third Clinic, Royal Charity Hospital, Berlin. Authorized American Edition. Translated under the direction of Nellis Barnes Foster, M.D.; Associated Physician to the New York Hospital; Associate in Biological Chemistry, College of Physicians and Surgeons, Columbia University. New York. E. B. Treat & Co., 1909.

This brief monograph is the revision of an article on Gout published several years ago by Dr. Strauss in the German language, to which has been added a large amount of new material which explains the different theories and ideas which have been advanced on this subject in the meantime. Only the most essential factors and those only which have a practical bearing are considered in the pathogenesis and therapeutics of the disease. The present trend of opinion is well presented. The subject of Uricæidemia is particularly well handled. In the treatment of the disease emphasis is placed on individual treatment rather than a routine plan of conducting all such cases. This, we believe, is one of the strongest features of the book. (W. G. B.)

"HEALT AND BEAUTY." By John V. Shoemaker, LL.D., M.D., Professor of Materia Medica, Pharmacology, Therapeutics and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital. F. A. Davis & Co., Philadelphia, 1909.

In this work Dr. Shoemaker has contributed to the medical profession a treatise that is most interesting and instructive. As

a writer, Dr. Shoemaker is so well known that it is almost useless to comment on his productions, for he has long since been recognized as an authority on any subject that pertains to the cutaneous system. The work, although written from a medical standpoint, includes all aesthetic considerations which Nature itself presents in connection with the subject. The book has rather an historical setting which makes the reading very interesting. The fundamental laws of health as they apply to the skin are freely discussed in the various chapters and how they are influenced by the different modes of living, climate, diet, exercise. It is well known that the skin plays a most important role in the general health of an individual; therefore a work which outlines proper care of this envelope of the body is a valuable adjunct to medical literature. As the author has well said, "The life of no organ can be considered apart from other components of the body." The proper employment of cosmetics, their limitations, is well defined and numerous formulæ are given for their preparation. The author deals briefly with the disfigurement of the skin from disease with some treatment for these conditions, but not as thoroughly as a special work on general dermatology. The eruptive fevers are considered, as well as the appendages of the skin and the diseases pertaining thereto. (W. G. B.)

"CONSUMPTION, HOW TO PREVENT IT AND HOW TO LIVE WITH IT.
By N. S. Davis, Jr., A.M., M.D. Second Edition, thoroughly revised. Philadelphia, F. A. Davis & Co., Publishers. 1908.

In this valuable little book on consumption, Dr. Davis has been able to place instruction to consumptives in a definite form to study. This is far better than giving each patient verbal advice and instructions, and the book will fit all classes of cases. The character of the disease once known, proper interest is taken in treatment. The possibilities of cure in some cases appreciated a higher ambition of personal care allows hope for best results. This work is excellent in the promulgation of these essential points. It deals also with climates, weather changes, and conditions, forms of exercise prescribed and kinds of labor allowed a victim of tuberculosis. It is a most valuable book to instruct the patient, thereby aiding the doctor and limiting the spread of consumption. (S. B. H.)

“A MANUAL OF DISEASES OF THE NOSE, THROAT AND EAR.” By E. B. Gleason, M.D., L.L.D., Clinical Professor of Otology in the Medico-Chirurgical College; Ourist to the Medico-Chi. Hospital; Surgeon-in-charge of the Nose, Throat and Ear Department of the Northern Dispensary; formerly on of the Laryngologists to the Philadelphia Hospital. Illustrated. Philadelphia and London. W. B. Saunders Co. 1908.

This convenient leather back book contains the essential facts of what a student or general practitioner should know of the nose, throat and ear. Indeed, no general medical man can afford to be without such a book as this. Gleason's book is probably more profusely illustrated with apparatus that is within the reach of price and comprehension of any common-sense doctor. The work is also replete with a list of excellent formulæ. The text is tersely and comprehensively written, containing 550 pages and is easily worth the price, \$2.50. (S. B. H.)

THE ANNALS OF SURGERY ISSUES ITS FIFTIETH VOLUME.

On January 1, 1885, there appeared in the literary medical world the first number of a new journal, given up entirely to generay surgery. This radical departure from the old lines had the full endorsement of a large number of the leaders in surgery, both in Great Britain and the United States, among whom was Lord Lister, whose name led all the rest on the title-page. The seed was good, the soil fertile, and the journal grew and prospered. To-day it's the Annals of Surgery of Philadelphia. In December it blooms—blooms in full, and its subscribers will be treated to a choice collection of twenty-two original articles in the form of a jubilee number.

Eminent surgeons from England, Scotland, Denmark, France, Italy, Hawaii, Canada, and the United States will contribute to this issue. Truly the editors and publishers deserve great praise for so fitly rounding out this the fiftieth volume.

PERSONAL.

Dr. William Bailey, of Louisville, Ky., has been elected to succeed Dr. J. M. Mathews as president of the State Board of Health. Dr. Bailey has been a member of the board for twenty years, and a professor in the University of Louisville for fifteen years. He is 76 years of age. We are glad to see the young man given this position.

THE TEST OF TIME.

BY

OSCAR F. BAERENS, M. D., Ph. G.,

*Professor of Diseases of the Ear, Nose and Throat, St. Louis
College of Physicians and Surgeons, St. Louis, Mo.*

In Glyco-Thymoline I have found a preparation upon which the body medical has placed the seal of approval and one calculated to meet the requirements of the medical practitioner's varied needs. The preparation is too well known by reason of its world wide (I use this term advisedly) use, to necessitate or warrant a description or analysis here, nor do I propose to speak for others beside myself. It is, however, a pleasure to state that for the past eight years I have used this preparation to the exclusion of all others in my work at the clinic and in private practice whenever I wanted a mild cleansing antiseptic detergent remedy. During the period of time I have a large number of cases on record which I could detail would space permit, but I must desist and limit myself to a few which I will offer to show why I confine myself to this single remedy and leave it to the reader to determine the value of my judgment.

Mr. G. C. H., age 37, travelling salesman, consulted me in reference to his "catarrh," which had given him such discomfort for some time. Complained of frequent attacks of headache, occasional sore throat and incidentally mentioned the fact that his sense of smell was failing him. I examined his nose carefully

and found him in the first stage of beginning atrophic rhinitis. The tissues looked dry and drawn, there were some crusts which were very adherent and had some odor. When detached, which was with difficulty, the mucous membrane showed a tendency to bleed. I spent some time in rendering the affected parts perfectly clean, using a solution of Glyco-Thymoline and water equal parts, warmed to proper temperature. He was further instructed in the use of the K. & O. Nasal Douche which he continued to use daily. I gave him general instructions as to his habits, diet, way of living, and he left me. Saw him several months later while passing through the city and he came up to the office and I looked him over again. To my great surprise the atrophy had been unmistakably arrested in its progress, his throat was normal, he not being obliged to hawk so incessantly any more and his sense of smell had returned completely. Here is a case which was entirely restored by the conscientious and diligent use of Glyco-Thymoline.

Fred. H. K., age 26, vocalist, came to me complaining of his throat, which troubled him considerably in his work. Stated that he had received treatment from three or four physicians without receiving any benefit. Said previous treatment consisted in cauterizing the tonsils; throat no better for all this. Upon examination found nose normal and pharynx in fair condition, and in the face of all I had learned from previous treatment was puzzled for a few moments. Completing my examination with the small mirror passed up behind the soft palate, I noticed a deep ulcer high up in the naso-pharynx, completely hidden from view by the velum palati. Everything at once became clear to me. Time and again I succeeded in getting results when others failed because I took the trouble to inspect the naso-pharynx, a cavity very much neglected. There was only one thing to do and one way to do it. Glyco-Thymoline was ordered to be used with equal parts of warm water as a douche for the nose. Patient readily learned the trick of closing up the cavity and allowing the medicament to remain in contact with the diseased parts for quite a while. In two weeks this patient was well of a trouble which threatened to cause him to abandon his vocal work, and which had caused him considerable expense, pain, and loss of time. I number him among my most grateful patients.





